NV4500
NV3550
AX15
TRANSMISSION
and
ADAPTER
INFORMATION

BOOKLET NO. NV015

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This **FIFTEENTH** edition of the NV4500, NV3550, & AX15 Instruction Manual is an accumulation of Advance Adapter's experiences and knowledge in performing various types of conversions. The information and photos are directly related to the products offered by our company. We have put this manual together for your reference in either performing the actual conversion or trying to establish an estimate on tools required for your specific type of conversion. There are several major sections covered in this booklet along with several reprint articles that have been supplied to us through the courtesy of various magazines. The information in this guide is constantly being updated and we ask that you verify any information that may be critical to your application. We highly recommend that you acquire the individual shop manuals for your particular vehicle as support for torque, gasketing, and assembly specifications which pertain to your vehicles requirements.

SPECIAL NOTE: Catalog Contents
This manual has been put together with the best possible information available to us. Advance Adapters cannot accept the responsibility for vehicles and applications that are not standard. The contents of this brochure have been proofread before printing to minimize errors. We cannot be held responsible for errors overlooked. Please feel free to contact us with any suggestions or comments you may have regarding any portion of this manual. The information that you provide us could be useful in assisting other customers.

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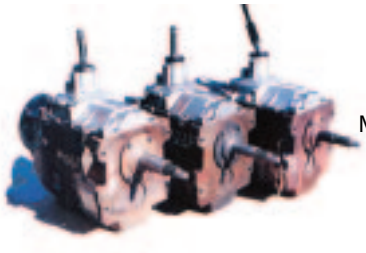

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NV4500 TRANSMISSION SPECIFICATIONS

INTRODUCTION:

In 1993, General Motors and Chrysler teamed up together to manufacture a transmission referred to as the NV4500 transmission. The NV4500 were used in both the GM & Dodge truck applications. We first learned of this transmission in mid-1993. Since then, we have developed numerous transmission-to-transfer case adapters along with the necessary bellhousing adapters to use the NV4500 in almost every type of 4WD vehicle; and you can see by the size of this booklet that we consider this transmission to be a very popular conversion. This instruction manual has been provided to assist you in the products that are available for both engine and transfer case conversions. The information contained in this manual has been based on our first hand experience.

The NV4500 is a constant mesh, helical geared 5 speed manual transmission. All forward gears are fully synchronized. The Dodge version NV4500 offers a synchronized reverse gear. The later models of the GM NV4500 now offer the synchro-reverse gear. This reverse gear can be added to the earlier GM NV4500 transmissions as an option. The 5th gear has an overdrive gear ratio of .73:1. The extremely low first gear ratio along with the overdrive 5 speed combination makes this transmission very desirable, since it offers the best possible gear ratio available for on or offroad conditions.

The transmission case is made of a cast iron material and the gear case cover is an aluminum alloy. The low profile of the top cover provides excellent clearance for 4WD aftermarket conversions. Unlike the older GM and Ford 4 speeds, the shift tower location has been relocated further back, approximately 9-1/2" from the face of the transmission, providing easier accessibility.

	GM ONLY	*GM & DODGE*
GEAR RATIOS:	**1993-1994**	**1995-2004**
First Gear	6.34	5.61
Second Gear	3.44	3.04
Third Gear	1.71	1.67
Fourth Gear	1.1	1.1
Fifth Gear	0.73	0.73
Reverse	6.34	5.04

DIMENSIONS:	
Approximate Dry Weight	195 lbs.
Oil Capacity	8 pints
Maximum G.V.W.R.	14,500 lbs.
Main Case Material	Cast Iron
Main Case Length	12.375"
Extension Housing	Aluminum
Top Cover Material	Aluminum

There has been considerable discussion as to the best possible gear ratios to use for the various engine and transmission combinations. Originally, GM transmissions had a 6.34:1 first gear ratio that made it the most desirable for offroad performance. These transmissions were in high demand because of this super low first gear ratio. In 1995, GM discontinued the production of the 6.34:1 ratio and now only offers a 5.61:1 gear ratio. All NV4500 GM & Dodge except the GM1995 and earlier have the first gear ratio of 5.61:1. Some of the older transmissions are still available; and by using the identification charts in this booklet, you will be able to identify the gear ratios of almost every NV4500 transmission.

TRANSMISSION LUBRICATION:

The NV4500 transmission uses approximately one gallon of synthetic oil. This oil is available at your local Dodge authorized dealer under Part No. 4874459 (quart), or your local GM authorized dealer under Part No. 12346190 (quart). Unlike regular petroleum oil that breaks down when it gets too hot, this synthetic oil is made up of different properties that do not break down. The transmissions are also equipped with synchronizer rings that are made of a fibrous material. The wrong fluid will cause the unit to develop “sticky” shifting. If the wrong fluid is used, more than likely you will have to have your transmission rebuilt.

DO NOT SUBSTITUTE any other lubricant as internal damage will occur.

NOTE: Castrol Syntech is NOT the same as Castrol Syntorq.

We sell Ams Oil MTG under P/N 715690. This is the only suitable oil substitute.

TORQUE SPECIFICATIONS:

Part Description	*Foot/Inch Pounds of Torque*
Top Shift Cover Bolt	200 Inch pounds
Adapter Housing	40 Foot pounds
Front Drive Gear Retainer	265 Inch pounds
Main Shaft Nut 4WD	275 Foot pounds
P.T.O. Cover Bolts	30 Foot pounds
Reverse Inhibitor Bracket	95 Inch pounds
Counter Shaft Brg. Ret. Plate	200 Inch pounds
Main Shaft Brg. Ret. Plate	200 Inch pounds

GASKETING SPECIFICATIONS:

In order to install the new adapter housing, top cover, and bearing retainer, we recommend using Loctite 518 Gasket Eliminator. This sealant seems to work best.

SPEEDOMETER:

Most 4WD installations provide a speedometer drive gear on the back side of the transfer case.

On 2WD transmission swaps, Dodge transmissions are the most desirable due to the mechanical speedometer drive. The later versions (1998 & newer transmissions) do not have any type of speedometer provisions. The GM 2WD NV4500 transmissions use an electronic speed sensor. These transmissions will not allow you to retain your stock speedometer drive.

BACKUP SWITCH:

All NV4500s are equipped with an electronic reverse backup switch. If your vehicle is equipped with some type of backup indicator light, it can be adapted very easily to the new NV4500 switch. The parts required to couple to this switch are P/N 300378 (1), 300378 (2 req.), and 300378-1 (2 req.).

SUSPENSION LIFTS:

Driveline angles could be a major problem when using the NV4500 primarily because of the extreme length of the new transmission. It will be very important that you consider the new adapter length before purchasing any components. Compensation for the rear driveline angle can be adjusted slightly by the use of axle degree shims and by adjusting the crossmember support downward from the frame rails. *DO NOT OVERLOOK* the effects of the suspension lift when using a NV4500. Most complaints of noise after a transmission swap are due to improper driveline angles.

NV4500 rebuild kit:

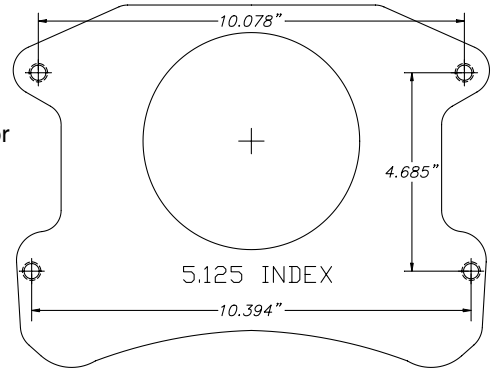
If you find your own NV4500, but need to freshen it up with some new bearings seals and synchronizers, we offer **P/N 715691**. This kit supplies you with replacement parts for the normal wear items of the NV4500.

TRANSMISSION IDENTIFICATION

The NV4500 transmission identification tag is attached to the shifter top cover. The tag provides the transmission model number, build date, and part number. Be sure not to remove the I.D. tag during the conversion. The information on this tag is essential for ordering the correct replacement parts. Since we use various transmission configurations for the different types of transfer case & bellhousing adapters, be sure to examine the application for your particular conversion before finalizing the purchase of a NV4500.

GM 4WD NV4500 (1993-94)

During the first two years of the NV4500, Chevy offered this 5 speed with a 6.34:1 1st gear; 2nd 3.44:1; 3rd 1.71:1; 4th 1:1 ratio, and a 27% overdrive. It was also the first year that Chevy changed the bellhousing-to-transmission bolt pattern. This transmission is ideal when converting your vehicle, providing an ultra-low 1st gear. GM, however, only produced this particular ratio during these years. The major complaint of this 5 speed was stiff shifting and noise in 3rd gear.



1993-95 GM NV4500 Bellhousing Bolt Pattern

Identification of this transmission can be obtained by using the identification charts in this manual. Due to the interchangeability of other NV4500 components, we also recommend that you verify the following information. Starting at the front, this GM transmission should have a input shaft pilot tip diameter of .590". The spline of the input is 1-1/8" diameter 10 spline and protrudes approximately 6-5/8" from the face of the transmission. This input shaft *cannot* be interchanged with any other NV4500 input shafts other than transmissions with the same 1st gear ratio unless you change the counter drive gear also. The front bearing retainer index is 5.125", with a snout diameter of 1.373", and a front bolt pattern as shown. The shifter stud on the top cover is a male threaded connection. The rear of this transmission has an aluminum adapter housing which measures 8-1/8" long; and the output shaft is 32 spline. Most transfer case adapters for this transmission will require the replacement of the tailhousing and the shortening of the output shaft.

This transmission cannot be used with a Ford engine.

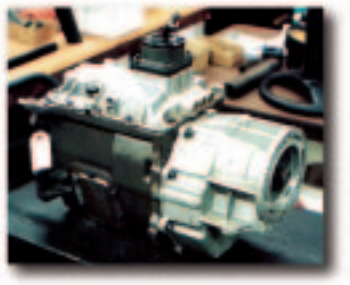
GM 4WD NV4500 (1995)

This transmission is identical to the 1993-94 transmission, except the 1st gear ratio had been changed to 5.61:1; 2nd 3.04:1; 3rd 1.67:1; 4th 1:1 ratio, and a 27% overdrive. The noise and shifting problems had been corrected.

Identification of this transmission can be obtained by using the identification charts in this manual. Due to the interchangeability of other NV4500 components, we also recommend that you verify the following information: Starting at the front, this GM transmission should have a input shaft pilot tip diameter of .590". The spline of the input is 1-1/8" diameter 10 spline and protrudes approximately 6-5/8" from the face of the transmission. This input shaft can be interchanged with other NV4500 input shafts with this 5.61 1st gear ratio. The front bearing retainer index is 5.125", with a snout diameter of 1.373", and a front bolt pattern as above. The shifter stud on the top cover is a male threaded connection. The rear of this transmission has an aluminum adapter housing which measures 8-1/8" long; and the output shaft is 32 spline. Most transfer case adapters for this transmission will require the replacement of the tailhousing and the shortening of the output shaft.

GM 4WD NV4500 (1996 & Newer)

This transmission has the same gear ratio as the 1995 version (1st 5.61:1; 2nd 3.04:1; 3rd 1.67:1; 4th 1:1 ratio, and a 27% overdrive). Chevy once again changed the bellhousing-to-transmission bolt pattern and went to a larger bellhousing index diameter. The new bolt pattern and index are the same as the Dodge Standard Duty NV4500. These transmissions use a GM internal release bearing.



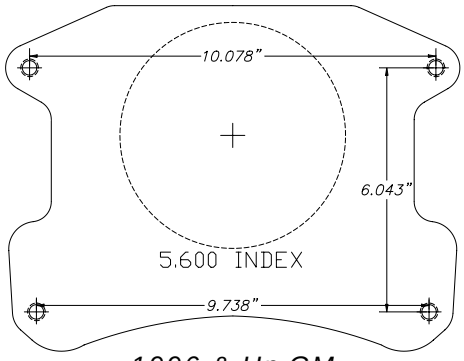
Identification of this transmission can be obtained by using the identification charts in this manual. Due to the interchangeability of other NV4500 components, we also recommend that you verify the following information: Starting at the front, this GM transmission should have an input shaft pilot tip diameter of .590". The spline of the input is 1-1/8" diameter 10 spline and protrudes approximately 6-5/8" from the face of the transmission. This input shaft can be interchanged with other NV4500 input shafts with this 5.61 1st gear ratio. The front bearing retainer index is 5.600". This transmission uses an aluminum front retainer *without* a release bearing snout. The stock

GM bellhousing used an internal release bearing that mounted to the front of this transmission. Most bellhousing adapters for this transmission will either require the replacement of the retainer or, on some applications, an adapter retainer bolted to the front of the stock GM aluminum retainer. The shifter stud on the top cover is a male threaded connection. The rear of this transmission has an aluminum adapter housing which measures 8-1/8" long; and the output shaft is 32 spline. Most transfer case adapters for this transmission will require the replacement of the tailhousing and the shortening of the output shaft. We carry this rebuilt transmission under **P/N 26-0007R**. * The top shifter's will vary on these transmission due to core supplies.

GM 2WD NV4500 (1993 & Newer)

These transmissions have the same front bolt pattern dimensions and gear ratios as the corresponding year 4WD NV4500 version.

These transmissions have a shorter tailhousing and a fixed output yoke. These tailhousings did not use a standard mechanical speedometer drive, but were equipped with an electronic speedometer setup. Connection to this speedometer must be considered.



1996 & Up GM
1993 & Up DODGE
NV4500 Bellhousing
Bolt Pattern

We have found these transmissions to be best suited for full size Ford trucks that have the independent transfer case. The speedometer on this application will remain in the stock transfer case, and the short NV4500 tailhousing allows room for the short driveline between the transmission and the transfer case. To fit this transmission to a Ford bellhousing, a new Dodge input shaft is required. *NOTE: The Dodge input shaft will not work in the GM NV4500s with the 6.34:1 1st gear ratio.* Identification of this transmission can be obtained by using the identification charts in this manual.

GM NV4500 (Commercial Truck-Style)

Specialty aftermarket NV4500s manufactured for commercial truck applications (such as UPS trucks) may also be located in various salvage yards. The front portion of the transmission is comparable with all the various GM NV4500 transmissions; however, the tailhousing will need to be changed along with the transmission output shaft. These units can sometimes be purchased at a considerable savings, since the output yoke is not compatible for 4WD and conventional light-duty truck applications.

Dodge Standard Duty 4WD NV4500 (1993-1998)

These transmissions have the same front bolt pattern and bearing retainer index as the 1996 to current. Chevy NV4500 transmission. The gear ratios of all of the Dodge version NV4500s remained the same, which is a 1st gear of 5.61:1; 2nd 3.04:1; 3rd 1.67:1; 4th 1:1 ratio, and a 27% overdrive. These transmissions use a 7-1/2" long input shaft which allows the use of an adapter plate between a stock bellhousing and the NV4500 transmission.

Identification of this transmission can be obtained by using the identification charts in this manual. Due to the interchangeability of other NV4500 components, we recommend that you also verify the following information: Starting at the front, this Dodge transmission should have an input shaft pilot tip diameter of .750". The spline of the input is 1-1/8" diameter 10 spline and protrudes approximately 7-1/2" from the face of the transmission (some early Dodge NV4500s had a 1"-19 spline input shaft). This input shaft can be interchanged with other NV4500 input shafts with this 5.61 1st gear ratio. The front bearing retainer index is 5.600", with a snout diameter of 1.43" for the release bearing. Most bellhousing adapters for this transmission will either retain this stock retainer as it is or may require some machining on it. The shifter stud on the top cover is a male square connection. The rear of this transmission has an aluminum adapter housing which measures 6-1/4" long; and the output shaft is 23 spline. Our transfer case adapters for this transmission will sometimes replace this stock tailhousing or, as in many cases, this stock housing can be retained by using an adapter plate.

Dodge Standard Duty 4WD NV4500 (1999-2000)

These transmissions are identical to the 1993-1998 Dodge transmission with the exception of the transmission shift stud. Dodge changed the square style shift handle receiver to a metric 14mm threaded stud.

Dodge Standard Duty 4WD NV4500 (2001 & Newer)

These transmissions are identical to the 1999-2000 Dodge transmissions. *Note: The output shaft on 2001 & newer models was changed to 29 splines.* We carry this rebuilt transmission under **P/N 26-0029R**. * The top shifter's will vary on these transmission due to core supplies.

Advance Adapters Custom Built (2001 & Newer)

These transmissions are built with a Dodge 29 spline output shaft and a GM input shaft. The transmission is also equiped with the GM front flat aluminum bearing retainer. We carry this rebuilt transmission under **P/N 26-0029RGM**. * The top shifter's will vary on these transmission due to core supplies.

Dodge Standard Duty 2WD NV4500 (1993-1998)

These transmissions have the same front bolt pattern and bearing retainer index as the Dodge 4WD NV4500 transmission. The gear ratios of the Dodge 2WD version are the same as the Dodge 4WD version (1st gear 5.61:1; 2nd 3.04:1; 3rd 1.67:1; 4th 1:1 ratio, and a 27% overdrive). These transmissions use a 7-1/2" long input shaft which allows the use of an adapter plate between a stock bellhousing and the NV4500 transmission. Identification of this transmission can be obtained by using the identification charts in this manual. The tailhousing of this transmission is 13" long and uses a slip yoke with 30 splines. This transmission works great for most 2WD installations since it uses a mechanical speedometer drive. On *1998* Standard Duty 2WD transmissions, the speedometer pickup was moved from the tailhousing back to the rear axle. If you obtain one of these transmissions, you will be required to change the tailhousing and output shaft to components from an earlier Dodge 2WD if you wish to have a working speedometer.

Dodge Standard Duty 2WD NV4500 (1999 & Newer)

These transmissions are identical to the 1993-1998 2WD Dodge transmission with the exception of the transmission shift stud. Dodge changed the square style shift handle receiver to a metric 14mm threaded stud. On these Standard Duty 2WD transmissions, the speedometer pickup was moved from the tailhousing back to the rear axle. If you obtain one of these transmissions, you will be required to change the tailhousing and output shaft to components from an earlier Dodge 2WD if you wish to have a working speedometer.

Dodge 4WD Heavy-Duty NV4500 (1993-1998)

This transmission is normally used up to the Cummins Diesel. This transmission is best suited for Dodge 4WD Getrag 5 speed replacements and Toyota Land Cruisers retaining the stock six cylinder engine. We DO NOT advise using this transmission for other applications unless you are prepaired to change the Heavy-Duty front input and retainer.

Identification of this transmission can be obtained by using the identification charts in this manual. Due to the interchangeability of other NV4500 components, we recommend that you also verify the following information: Starting at the front, this Dodge transmission should have an input shaft pilot tip diameter of .750". The spline of the input is 1-1/4" diameter 10 spline and protrudes approximately 7-1/2" from the face of the transmission. This input shaft can be interchanged with other NV4500 input shafts with this 5.61 1st gear ratio. The front bearing retainer index is 5.60", and has a snout diameter of 1.75" for the release bearing. The shifter stud on the top cover is a male square connection. The rear of this transmission has an aluminum adapter housing which measures approximately 6-1/4" long; and the output shaft is 29 spline.

Dodge 4WD Heavy-Duty NV4500 (1999 & Newer)

These transmissions are identical to the 1993-1998 Dodge H.D. transmission, with the exception of the transmission shift stud. Dodge changed the square style shift handle receiver to a metric 14mm threaded stud. We carry this rebuilt transmission under **Part No. 26-0020R**. * The top shifter's will vary on these transmission due to core supplies.

Dodge 2WD Heavy-Duty NV4500 (1993-1998)

These transmissions have the same front bolt pattern and bearing retainer index as the as the Dodge 4WD Heavy-Duty NV4500 transmission. This transmission should only be used for the Cummins Diesel Getrag replacement. Identification of this transmission can be obtained by using the identification charts in this manual. The tailhousing of this transmission is 13" long and uses a slip yoke (P/N 716087) with 31 splines. If you obtain a *1998* Heavy-Duty transmission, you will be required to change the tailhousing and output shaft to components from an earlier Heavy-Duty Dodge 2WD if you wish to have a working speedometer.

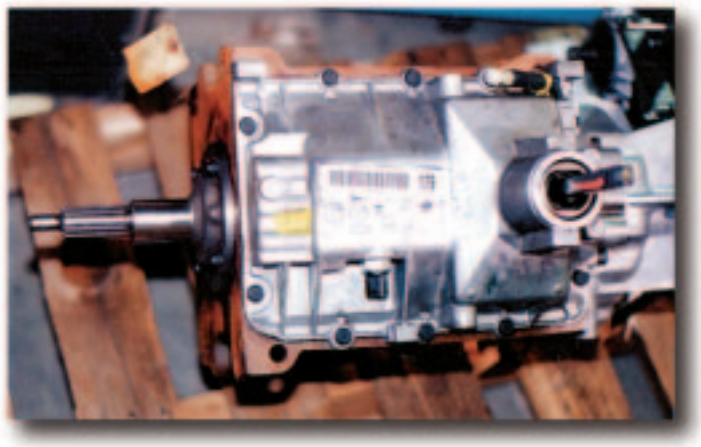
Dodge 2WD Heavy Duty NV4500 (1999 & Newer)

These transmissions are identical to the 1993-1998 Dodge H.D. transmission with the exception of the transmission shift stud. Dodge changed the square style shift handle receiver to a metric 14mm threaded stud. On these Heavy-Duty 2WD transmissions, the speedometer pickup was moved from the tailhousing back to the rear axle. If you obtain one of these Heavy-Duty transmissions, you will be required to change the tailhousing and output shaft to components from an earlier Heavy-Duty Dodge 2WD if you wish to have a working speedometer.

DODGE NV4500 LABEL CODE SUMMARY

The following information deals with both the OEM transmission part numbers and the NV4500 part numbers. In order to assist you with identifying the various transmissions that you might encounter in a salvage yard, we have listed most of the model information provided to us by the manufacturer & our local dealer. These charts should assist you in the identification process.

MODEL	PART NUMBER	DODGE ASSY CODE	DODGE CODE	ENGINE (Liters)
MODEL YEAR Mid-1992 TO 1993 - 5.61:1 RATIO GEAR SET				
4X2	12515	53006841	DA	3.9, 5.2, 5.9
4X4	12517	53006842	DB	3.9, 5.2, 5.9
MODEL YEAR 1994 Through 1996 - 5.61:1 RATIO GEAR SET				
4X2 (Standard Duty)	18183	52108001	DC	5.2, 5.9 V8
4X2 (Heavy Duty)	18155	52108224	DD	5.9 T/D, 8.0
4X4 (Standard Duty)	18187	53006845	DE	5.2, 5.9 V8
4X4 (Heavy Duty)	18179	52108225	DF	5.9 T/D, 8.0
MODEL YEAR 1997 (Single Plane Reverse - One Piece Countershaft) 5.61:1 RATIO GEAR SET (Last year with speedometer provisions)				
4X2 (Standard Duty)	PR21197	52108194		5.2, 5.9 V8
4X2 (Heavy Duty)	PR21198	52108196		5.9 T/D, 8.0
4X4 (Standard Duty)	PR21199	52108195		5.2, 5.9 V8
4X4 (Heavy Duty)	PR21200	52108197		5.9 T/D, 8.0



An example of an early Dodge topcover indentification tag.

DODGE NV4500 LABEL CODE SUMMARY Con't.

MODEL	PART NUMBER	DODGE ASSY CODE	DODGE CODE	ENGINE (Liters)
MODEL YEAR 1998 TO 2000 (Single Plane Reverse - One Piece Countershaft) 5.61:1 RATIO GEAR SET				
4X2 (Standard Duty)		52108128AD		5.2, 5.8 V8
4X2 (Heavy-Duty)		52108130AD		5.9 T/D, 8.0
4X4 (Standard Duty)		52108129AD		5.2, 5.8 V8
4X4 (Heavy-Duty)		52108131AD		5.9 T/D, 8.0
***MODEL YEAR 2001 TO 2002 (Single Plane Reverse - One Piece Countershaft) 5.61:1 RATIO GEAR SET**				
4X2 (Standard Duty)		52108128AF		5.9
4X2 (Heavy-Duty)		52108130AD		5.9 T/D, 8.0
4X4 (Standard Duty)		52108129AF		5.9
4X4 (Heavy-Duty)		52108131AD		5.9 T/D, 8.0
***MODEL YEAR 2003 (Single Plane Reverse - One Piece Countershaft) 5.61:1 RATIO GEAR SET**				
4X2 (Standard Duty)		52108128AE (P/N up to 2005)		5.7
4X2 (Heavy-Duty)		52108130AC (P/N up to 2004)		5.9 T/D, 8.0
4X4 (Standard Duty)		52108129AE (P/N up to 2005)		5.7
4X4 (Heavy-Duty)		52108131AC (P/N up to 2004)		5.9 T/D, 8.0

*Starting in 2001, New Venture Gear began to standardize on the use of their mainshafts. Standard Duty & Heavy-Duty 2WD models now have the same mainshaft; and the Standard Duty & Heavy-Duty 4WD models now have the same mainshaft.

An example of a later model Dodge topcover indentification tag.

GM NV4500 LABEL CODE SUMMARY

The following information deals with both the OEM transmission part numbers and the NV4500 part numbers. In order to assist you with identifying the various transmissions that you might encounter in a salvage yard, we have listed most of the model information provided to us by the manufacturer & our local dealer. These charts should assist you in the identification process.

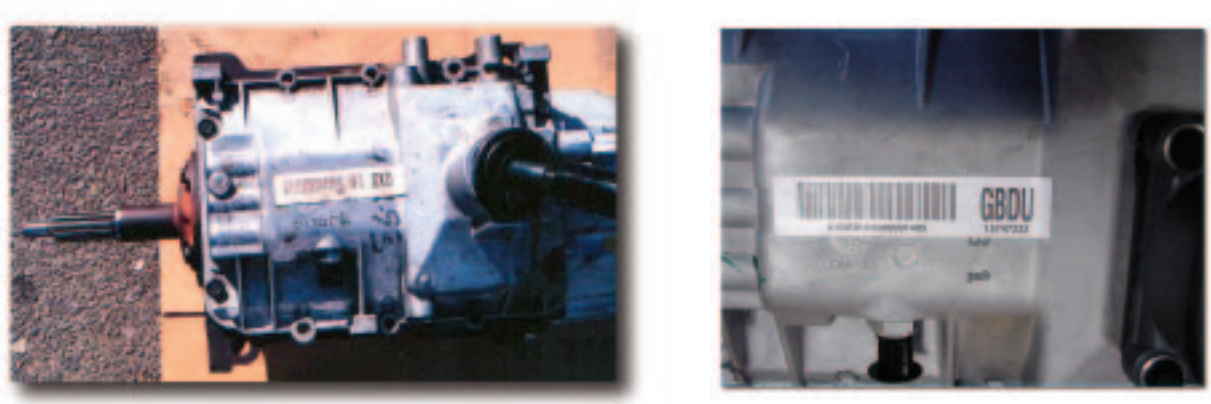
MODEL	GM ASSY NUMBER	GM CODE	TYPE OF ENGINE
MODEL YEAR Mid-1992 - 6.34:1 RATIO GEAR SET			
4X2 C-TRUCK	15627134 15693372	GBW GTT	T/DIESEL/GAS 6.2 DIESEL
4X4 K-TRUCK	15627135 15693373	GBX GTU	T/DIESEL/GAS 6.2 DIESEL
P-TRUCK	15954757 15954756	GCY GCX	WITHOUT YOKE W/ YOKE
MODEL YEAR 1993 - 6.34:1 RATIO GEAR SET			
4X2 C-TRUCK	15960760 15966631 15960763	GXW GZB GXF	GAS 6.5 T/DIESEL 6.2 DIESEL
4X4 K-TRUCK	15960761 15966632 15960764	GXC GZC GXG	GAS 6.5 T/DIESEL 6.2 DIESEL
P-TRUCK	15954757 15954756	GWY GWX	WITHOUT YOKE W/ YOKE
MODEL YEAR 1994 - 6.34:1 RATIO GEAR SET			
4X2 C-TRUCK	15960760 15966631	GXB GZB	ALL EXC 6.5D 6.5 DIESEL
4X4 K-TRUCK	15960761 15966632	GXC GZC	ALL EXC 6.5D 6.5 DIESEL
P-TRUCK GMT-455	15954757 15954756 15960762	GWY GWX GXD	WITHOUT YOKE W/ YOKE
MODEL YEAR 1995 - 5.61:1 RATIO GEAR SET			
4X2 C-TRUCK	15691902 15970869	GAKF GAKJ	ALL EXC 6.5D 6.5 DIESEL
4X4 K-TRUCK	15691901 15970870	GAKD GAKK	ALL EXC 6.5D 6.5 DIESEL
4X2 P-TRUCK	15970952 15970950	GAKM GAKL	WITHOUT YOKE W/ YOKE
4X2 GMT-455	15691903	GAKH	
MODEL YEAR 1996 - 5.61:1 RATIO GEAR SET			
4X2 C-TRUCK	15970014 15970015	GAMN GAMP	ALL EXC 6.5D 6.5 DIESEL
4X4 K-TRUCK	15970013 15970016	GAMM GAMR	ALL EXC 6.5D 6.5 DIESEL
4X2 P-TRUCK	15974728 15974727	GAKT GAKS	WITHOUT YOKE W/ YOKE
4X2 GMT-455	15970012	GAML	

GM NV4500 LABEL CODE SUMMARY
Con't

MODEL	GM ASSY NUMBER	GM CODE	TYPE OF ENGINE
MODEL YEAR 1997 - 5.61:1 RATIO GEAR SET			
4X2 C-TRUCK	15716059A 15716060A	GARJ GARK	ALL EXC 6.5D 6.5 DIESEL
4X4 K-TRUCK	15716058A 15716061A	GARH GARL	ALL EXC 6.5D 6.5 DIESEL
P-TRUCK	15727130A 15727131A	GARM GARN	WITHOUT YOKE W/ YOKE
4X2 GMT-455	15716057A	GARF	
MODEL YEAR 1998 - 5.61:1 RATIO GEAR SET			
4X2 C-TRUCK	15716059 15027365	GARJ GAWM	GAS DIESEL
4X4 K-TRUCK	15716058 15027366	GARH GAWN	GAS DIESEL
P-TRUCK	15727130 15727131	GARM GARN	WITHOUT YOKE W/ YOKE
4X2 GMT-455	15716057	GARF	
MODEL YEAR 1999 - 5.61:1 RATIO GEAR SET			
4X2	15020889 15020890	GBBM GBBN	GAS DIESEL
4X4	15020888 15020891	GBBL GBBP	GAS DIESEL
P-TRUCK	15031131 15020892	GBBW GBCF	WITHOUT YOKE W/ YOKE
4X2 GMT-455	15020887	GBBK	
MODEL YEAR 2000 - 5.61:1 RATIO GEAR SET			
4X2 C-TRUCK	15747133 15747134	GBFX GBFY	GAS DIESEL
4X4 K-TRUCK	15747132 15747135	GBFR GBFZ	GAS DIESEL
P-TRUCK	15031131 15020892	GBBW GBCF	WITHOUT YOKE W/ YOKE
4X2 GMT-455	15747131	GBFU	

GM NV4500 LABEL CODE SUMMARY
Con't

GM ASSY MODEL	GM NUMBER	TYPE OF CODE	ENGINE
MODEL YEAR 2001 - 5.61:1 RATIO GEAR SET			
4X2	15769082 15747232	GBDR GBDU	GAS GAS
4X4	15769083 15747233	GBKS GBFS	GAS GAS
P-TRUCK	15031131 15020892	GBBW GBCF	WITHOUT YOKE W/ YOKE
4X2 (Heavy-Duty) 4X2 GMT-455	15049382 15747131	GBDW GBFU	8.1 GAS
MODEL YEAR 2002 - 5.61:1 RATIO GEAR SET			
4X2 C-TRUCK	15769082 15747232	GBDR GBDU	GAS GAS
4X4 K-TRUCK	15769083 15747233	GBKS GBFS	GAS GAS
P-TRUCK	15031131 15020892	GBBW GBCF	WITHOUT YOKE W/ YOKE
4X2 (Heavy-Duty) 4X2 GMT-455	15049382 15747131	GBDW GBFU	8.1 GAS
MODEL YEAR 2003 to 2004 - 5.61:1 RATIO GEAR SET			
4X2	12572799 12572797	DFY DFW	GAS GAS
4X4	12572800 12572798	DFZ DFX	GAS GAS
P-TRUCK	15031131 15020892	GBBW GBCF	WITHOUT YOKE W/ YOKE
4X2 (Heavy-Duty)	15049382	GBDW	8.1 GAS



An example of an early model GM topcover indentification tag (left) and a later model GM topcover indentification tag (right).

NV4500 INPUT & OUTPUT SHAFTS

GM 32 TOOTH 4WD OUTPUT SHAFT

On all NV4500s that were equipped to a GM 4WD transfer case, you will find that the output shaft has 32 teeth. The adapter housing that is mounted to the back of the transmission case is 8-1/8" long. On the inside of this tailhousing, you'll either find a vibration damper on the output shaft or a steel sleeve. Most of our transfer case adapters will require the damper or sleeve to be removed. We couple to the 31 tooth spline located under the damper or sleeve. In order to remove the vibration damper or sleeve, you must use a special socket. This socket will be required in order to remove the nut because this nut is put on with 275 ft./lbs. of torque. On transmissions with the damper, a gear puller will be required since the damper is a press fit to the output shaft. On all applications that require the removal of the damper or sleeve, we will provide a custom set collar that must be installed on the output shaft to retain the 5th gear into position.

GM 35 TOOTH 2WD OUTPUT SHAFT

All GM NV4500s that were used in 2WD vehicles will be equipped with a 35 tooth output shaft. Located on the end of the shaft will be a large balancer type yoke. We do not make any transfer case adapters to couple to this output shaft.

DODGE 23 TOOTH 4WD OUTPUT SHAFT

On all 1993-2000 NV4500s that were equipped with Dodge 4WD transfer cases, you will find that the output shaft has 23 teeth. The adapter housing that is mounted to the back of the transmission case is 6-1/4" long. On the inside of this tailhousing, you'll find a locking nut that secures the 5th gear to the main shaft. This stock nut has undergone some design changes from the manufacturer because they have been known to loosen after time. Our adapters do not require the removal of this nut; however, you might want to make sure the nut is still properly secured. Most of our transfer case adapters do not require any modifications to the shaft or stock tailhousing.

DODGE 29 TOOTH 4WD OUTPUT SHAFT (for Heavy-Duty & 2001 Standard Duty transmissions)

On all Cummins diesel Dodge Heavy-Duty 4WD NV4500s and 2001 & up Dodge Standard Duty 4WD NV4500s, you will find that the output shaft has 29 teeth. The adapter housing that is mounted to the back of the transmission case is 6-1/4" long. On the inside of this tailhousing, you'll find a locking nut that secures the 5th gear to the main shaft. This stock nut has undergone some design changes by the manufacturer because they have been known to loosen after time. Our adapters do not require the removal of this nut; however, you might want to make sure the nut is still properly secured. If you have one of these transmissions and plan on changing the output shaft to one out of the other model NV4500s (i.e. a GM NV4500), you will also be required to change the 5th gear assembly since it will not fit on the new main shaft. A new nut to secure this 5th gear will also be required.

DODGE 30 TOOTH 2WD OUTPUT SHAFT

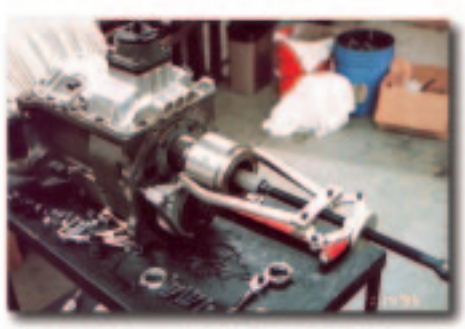
On all NV4500s that were used in a Dodge 2WD vehicle, you will find that the output shaft has 30 teeth. The tailhousing that is mounted to the back of the transmission case is 13" long. This tailhousing uses a slip yoke assembly. The slip yoke can be purchased from your local dealer.

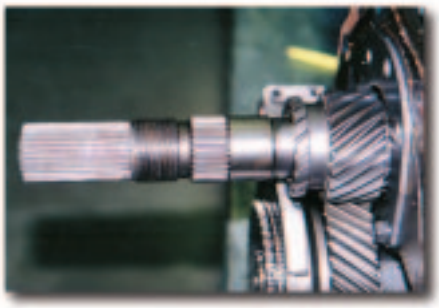
DODGE 31 TOOTH Heavy Duty 2WD OUTPUT SHAFT

On all Cummins diesel Dodge 2WD NV4500s, you will find that the output shaft has 31 teeth. The tailhousing that is mounted to the back of the transmission case is 13" long. This tailhousing uses a slip yoke assembly. The slip yoke for this transmission is a 1410 series. We stock this yoke as **P/N 716087**, or it can be purchased from your local dealer.

MAIN SHAFT INSTALLATION:

Depending on your application and transmission model, you may require the installation of a new transmission main shaft. The installation will require the use of a bearing puller in order to remove the rear tapered roller bearing on the main shaft. It will also require a special tool to remove the nut holding either the 5th gear or the harmonic balancer. These tools are available from your local GM or Dodge dealer depending on the make of your transmission. Although it is fairly simple and easy to exchange the main shaft on these transmissions, we recommend that you have the





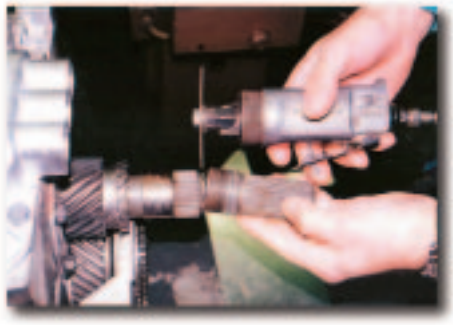
new shaft installed by a qualified transmission mechanic. Your local GM and Dodge service departments are equipped with all of the necessary tools and have been trained for repairing these NV4500 transmissions. The average time to disassemble and replace the new shaft would be approximately 2 hours, provided all the tools were available.

P/N J38805 Spec. Socket for Removal of the GM 4WD Damper

NOTE: The nut that retains the harmonic balancer (damper) is extremely hard to remove even with the right tools. One of our customers simplified the removal of the nut by drilling the nut on opposite sides with a 1/4" drill. Once drilled, take a chisel and split the nut into two halves. Then the special socket will not be needed.

MAIN SHAFT MODIFICATIONS: Several of the adapters require you to shorten the existing transmission main shaft while it is still installed in the transmission case. This is quite common when a GM 4WD transmission output shaft is being used. Each instruction sheet gives the exact cutoff location in order to be compatible with our components. The normal procedure for performing this operation can either be a high speed cutoff disc or a metal abrasive cutoff saw. To assist in making the exact cutting location, we suggest that you use tape and wrap it around the shaft to indicate the exact cutoff location. The tape will provide a definite location since the shaft is slowly rotated during the cutoff procedure. Once the outer surface has been penetrated, the inner core of the shaft could be cut with a regular hacksaw. All of the sharp edges should be smoothed to provide a good fit into our components.

CAUTION: During the cut off procedure, you must make sure to wear protective eye gear to prevent sparks from causing damage to your eyes. The bearings and gears should also be protected to avoid contamination of metal debris.



MAIN SHAFT END PLAY: If the transmission you acquire requires the replacement of the transmission main shaft or changing of the front input gear, you will need to recheck and inspect the end play tolerance on the main shaft. When installed into the main case of the transmission, the main shaft tolerance should be .002" to .006". This is very critical and you must use a dial indicator in order to determine if new shims will be required. Refer to the transmission service manual GM #17003.13 for additional information.

GM & DODGE INPUT SHAFTS: On the front of the transmission, the input shaft can vary depending on which type of transmission is being used. We have seen three different specifications of input shafts. *The input shaft gear tooth counts are all identical on all 3 transmissions, except for the GM transmissions with the 6.34:1 gear ratio.* Dodge also offered a early 19 spline input shaft 1992-93 transmissions, which is no longer available. This 19 spline shaft is interchangeable with all Dodge units and it will require a new retainer as well.

Transmission	*Input Shaft*
All GM transmissions (excludes 4x2 H.D. 2001 & newer)	1-1/8"-10 spline/.590" pilot tip (GM P/N12382877 or AA **P/N 52-0221**)
Dodge Standard Duty transmissions	1-1/8"-10 spline/.750" pilot tip (Dodge P/N 4882357 or AA **P/N 52-0219**)
Dodge Heavy-Duty transmissions	1-1/4"-10 spline/.750" pilot tip (Dodge P/N 4882358 or AA **P/N 52-0228**)

NOTE: All of the above input shafts will not work the 6.34:1 GM NV4500 transmission.

GM & DODGE FRONT RETAINERS: On the front of the transmission, both the GM and Dodge transmissions used a different front retainer. We offer some of these stock retainers as well as some modified retainers for use with our adapter kits:

Dodge gas version transmission has a 5.600" index dia. with a 1.437" snout dia. **P/N 716068**.
Dodge H.D. version transmission has a 5.600" index dia. with a 1.750" snout dia. **P/N 716080**.
GM 1993-1995 transmissions have a 5.125" index dia. with a 1.377" snout dia. *(we do not offer this retainer)*.
GM 1996-2004 transmissions have a 5.600" index dia. This retainer does not have a snout. We offer a bolt-on 1.377" snout, **P/N 716067A.** We also offer replacement aluminum GM retainers under **P/N 716068G**.

SHIFTERS

The year and the model of your NV4500 transmission (GM or Dodge) will determine the shift handle assembly you will use. Both GM and Dodge offer shift handle assemblies; however, the cost of these stock handles are not favorable. The shift handles we offer are easy to install and, if necessary, easy to modify to fit your vehicle. We offer 3 shifter configurations to fit the different models manufactured.

Stock GM 1993 & Up shift tower

P/N 716050C

(Chevy 1993 & UP)

SHIFTER KIT CONSISTS OF:

P/N 716050B - Shifter handle base
P/N 716050H - Shift handle
P/N 716050K - Shift knob
P/N 720061 - 10mm X 1.5 50mm long stud bolt
P/N 726203 - 5/8"-18 Hex jam nut

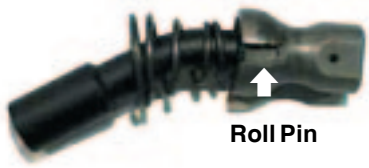
Note; Since there are numerous transmission rebuilder working on the NV4500. The top covers are easily switched out for one another. The shifter on this page are for the stock top cover on non rebuilt transmission. If you are buying your transmission from a rebuilder, you should verify the handle configuration so as to receive the correct handle.

P/N 716050D

(Dodge 1993-98)

SHIFTER KIT CONSISTS OF:

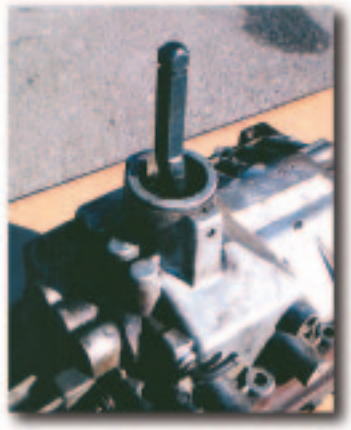
P/N 716050H - Shifter handle
P/N 716050K - Shift knob
P/N 716050S - Shift handle stud
P/N 720061 - 10mm X 1.5 50mm long stud bolt
P/N 726203 - 5/8"-18 Hex jam nut



Roll Pin

SPECIAL NOTES:

1. Remove rubber boot.
2. Remove retaining cup - Push down and turn cup counter clockwise, then pull straight stud out of top cover.
3. Remove old stud by driving 1/4" roll pin out of base.
4. Slide the stock spring over the shifter stud (large end up).
5. Install Part No. 716050S into base. Reassemble using original 1/4" roll pin.



Stock Dodge 1993-98 shift tower

Stock Dodge 1999-2002 shift tower

P/N 716050D1

(Dodge 1999 & Newer)

SHIFTER KIT CONSISTS OF:

P/N 716050 - Shifter handle base
P/N 716050H - Shift handle
P/N 716050K - Shift knob
P/N 720061 - 10mm X 1.5 50mm stud bolt
P/N 726203 - 5/8"-18 Hex jam nut

Stock Dodge 2003 & Newer shift tower

ADAPTER PACKAGES & INDIVIDUAL COMPONENTS FOR JEEP VEHICLES

We offer complete adapter packages for the most common Jeep engine and transmission swaps along with the most common transmission retrofits. If we do not show a transmission package specifically for your application, more than likely we offer the individual components to convert your vehicle. *The components in the packages that we do offer can also be purchased separately.* In the applications to follow, we have listed the transmission package(s) plus the individual components, and any optional or related items that we offer. Also noted are some of the modifications you may be required to perform.

We currently offer rebuilt NV4500 transmissions. The GM 4WD NV4500 can be purchased under **Part No. 26-0007R**, the Dodge 4WD NV4500 under **Part No. 26-0029R**, and our custom built transmission with the Dodge 29 spline output shaft and the GM inputshaft is sold uner **Part Number 26-0029RGM**. If you wish to obtain your own transmission, please refer to the GM and Dodge identification charts for both current and past OEM part numbers.

JEEPS 1941-1979 (Dana 18/20 - Long wheel-based vehicles only):

In order to adapt a NV4500 to these transfer cases, the transmission must be a *GM 4WD NV4500*. The spud shaft we manufacture couples to the 31 spline portion of the GM output shaft. This 31 spline area is located under the vibration damper or sleeve on this output shaft. The stock output shaft must be cut to the proper stickout length of 4.498" to couple to our spud shaft. The stock GM tailhousing will not be reused, since these kits provide a new tailhousing adapter. The bearing retainer provided in the transfer case kit is ONLY for large hole transfer cases. If you have a small hole transfer case, please contact us for more information.

The transfer case linkage will need to be modified in order to fit alongside the large 5 speed transmission case. The Dana 18/20 used several different shift linkages, some requiring more modifications than others. Due to the length of the transmission, driveline modifications will almost always be required. A 1" to 2" body lift is usually required to obtain proper tunnel clearance.

These kits are not compatible in short wheel-based vehicles such as the CJ5 models. The only exception to this would be to use a 4 cylinder or V6 engine. The engine would then need to sit to the very forward position of the engine compartment. Even so, when we installed a NV4500 into a 1966 CJ5 with a V6, the rear driveshaft was still very short.

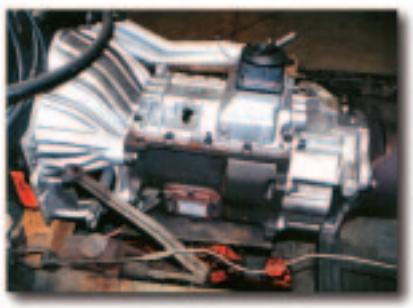
AMC-Jeep engine full bellhousing design. O.A.L. of 24.750".

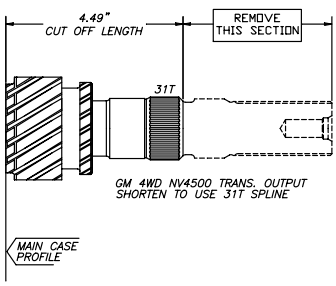
- **P/N 50-0210** - Transfer case adapter kit
- **P/N 712568** - Bellhousing kit for GM NV4500 (1996 & newer) to AMC engine
- **P/N 712571** - Bellhousing kit for GM NV4500 (1995 & earlier) to AMC engine
- **P/N 716050C** - Shifter handle assembly

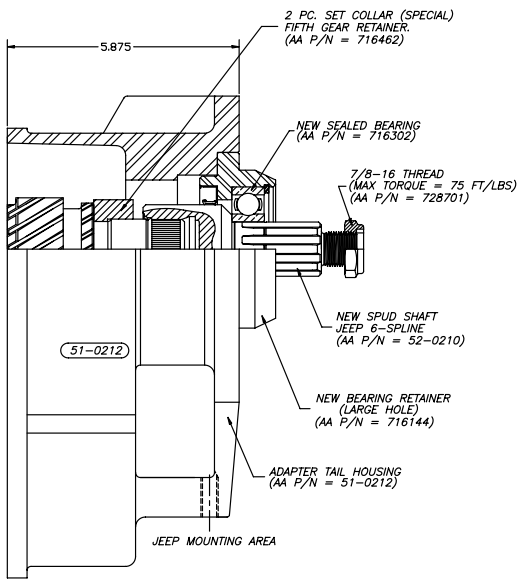
P/N 712571

Chevy V6 & V8 full bellhousing design. O.A.L. of 24.750".

- **P/N 50-0210** - Transfer case adapter kit
- **P/N 712576** - Bellhousing kit for GM NV4500 (1996 & newer) to Chevy V6 & V8
- **P/N 712577** - Bellhousing kit for GM NV4500 (1995 & earlier) to Chevy V6 & V8
- **P/N 716050C** - Shifter handle assembly







The recommended clutch components for the bellhousings listed above are found in the GM Full Conversion Bellhousing section of this manual.

JEEPS 1980-1986 (Dana 300):

In order to adapt a NV4500 to a Dana 300 transfer case, the transmission can either be a *29 spline or a 23 spline DODGE Standard Duty 4WD NV4500*. This Dodge transmission has the correct bolt pattern to bolt directly to the Dana 300 transfer case. The 23 spline transmission has the same spline count as that of the Dana 300. The Dodge 29 spline transmission requires the installation of a new 29 spline input gear into the Dana 300.

On 1996 & newer Dodge transmissions, the internal profile of the stock tailhousing was changed. This profile change causes interference with the stock Dana 300 alignment retainer. These newer transmissions require a shorter Dana 300 retainer for proper indexing. *The kit package listed below are all based around the 1996 & newer transmission.*

JEEP ENGINE WITH A DANA 300 T/C NV4500 KITS

P/N 27-0003T - *29 spl. DODGE Gas NV4500 to AMC-Jeep engine Adapter plate design*

The overall assembly length is 26.125". These kits use an adapter plate that bolts to the stock AMC bellhousing. *The adapter plate requires the use of a 1976-86 stock Jeep bellhousing from a T150 and T176 (AA P/N 712599 or Jeep P/N 8133951 or 3236291).* These bellhousings permit an easy adaptation to the Dodge NV4500 transmission. The original Jeep clutch linkage is retained since you are using your original bellhousing. Driveline modifications will be required with NV4500 transmission replacements. These kits are not compatible with short wheel-based vehicles such as the CJ5 models. A new index Dana 300 retainer is provided in the kit for proper indexing. Some crossmember modifications are necessary, and a body lift is recommended.

This kit include:

- **P/N 384193** - AMC 10.5" clutch disc
- **P/N 712553** - Adapter plate kit
- **P/N 716021** - Crossmember mount for Dana 300
- **P/N 716048** - Crossmember spacer
- **P/N 716221** - Retainer kit
- **P/N 716050D1** - Shifter handle assembly
- **P/N 52-0229** - 29 spline Dana 300 input

P/N 716221

Regarding **P/N 712553** adapter plate to Jeep bellhousings 8133951 or 3236291: Between 1976-86, there were several Jeeps that were equipped with a 6-1/2" bellhousing depth. This bellhousing had a Ford bolt pattern along with the Ford index diameter of 4.848". By using our adapter plate on these applications, you can easily adapt the Dodge NV4500 to your original AMC bellhousing. This adapter can be used on all AMC 258 6 cylinders and AMC V8s. The stock clutch linkage does not require modifications, since the original bellhousing is being retained. *NOTE: If your vehicle was equipped with a T4, T5, or SR4 transmission, you will need to drill & tap your bellhousing in order to bolt to our adapter.* A new pilot bushing is provided in the kit to fit the tip of the NV4500 input shaft. Your stock clutch components can be retained; however, a new clutch disc and pressure plate should be used. We offer Centerforce clutch disc **P/N 384193**, and pressure plate **P/N CF361897** (for hydraulic linkages) or **P/N CF361675** (for mechanical linkages) as an upgrade to a stock clutch system. The transmission must be the Dodge Standard Duty NV4500 with the 7-1/2" input shaft stickout length.

P/N 27-0003BT - *29 spl. DODGE Gas NV4500 to AMC-Jeep engine Full bellhousing design*

The overall assembly length is 25.125". These kits use an new custom bellhousing that bolts to the stock AMC engine. The original Jeep clutch linkage can be retained, since our bellhousing offers the same clutch linkage mounting holes as the stock bellhousing. Driveline modifications will be required with NV4500 transmission replacements. These kits are not compatible with short wheel-based vehicles such as the CJ5 models. For proper indexing, a new index Dana 300 retainer is provided in the kit. Some crossmember modifications are necessary, and a body lift is recommended. Refer to **Page 26-27** for more information on the 712568 bellhousing kit.

This kit include:

- **P/N 384193** - AMC 10.5" clutch disc
- **P/N 712568** - Full bellhousing kit
- **P/N 716021** - Crossmember mount for Dana 300
- **P/N 716048** - Crossmember spacer
- **P/N 716221** - Retainer kit
- **P/N 716050D1** - Shifter handle assembly
- **P/N 52-0229** - 29 spline Dana 300 input

This kit is designed for our NV4500 transmission P/N 26-0029RGM. If you are obtaining your own transmission, you will need to order a new input shaft to work with the bellhousing. **P/N 52-0221** - GM input shaft.

GM ENGINE WITH A DANA 300 T/C NV4500 KITS

P/N 27-0000T - 29 spl. DODGE Gas NV4500 to Chevy V6 & V8 Adapter plate design

The overall assembly length is 26.125". *These kits require the use of a stock GM bellhousing with a 5.125" index diameter.* These kits use an adapter plate that couples the Dodge transmission to a standard GM bellhousing. We have included a mounting bracket for the stock Jeep mechanical clutch linkage. If your vehicle is equipped with a hydraulic clutch, a bracket will need to be fabricated. The drawing on the following page shows the new index retainer for the Dana 300 transfer case. These kits also include a crossmember mount & spacer to properly support the transmission onto the stock crossmember. The stock crossmember will require some modifications, and a body lift is recommended.

This kit include:

- **P/N 712550** - Adapter plate kit
  (For clutch components, refer to the GM Adapter Plate section of this manual)
- **P/N 716021** - Crossmember mount for Dana 300
- **P/N 716048** - Crossmember spacer
- **P/N 716221** - Retainer kit
- **P/N 716638** - Jeep clutch pivot
- **P/N 716050D1** - Shifter handle assembly
- **P/N 52-0229** - 29 spline Dana 300 input

P/N 716021

P/N 27-0001T - 29 spl. DODGE Gas NV4500 to Chevy V6 & V8 Full bellhousing design

The overall length is 25.125". These kits use an new custom bellhousing that bolts to the GM engine. The stock Jeep clutch torque tube bracket can be mounted directly to our bellhousing. This bellhousing also has provisions for a stock Jeep Iron Duke slave cylinder. The drawing on the following page shows the new index retainer for the Dana 300 transfer case. These kits also include a crossmember mount & spacer to properly support the transmission onto the stock crossmember. The stock crossmember will require some modifications, and a body lift is recommended. Refer to **Page 47** for more information on the 712576 bellhousing kit.

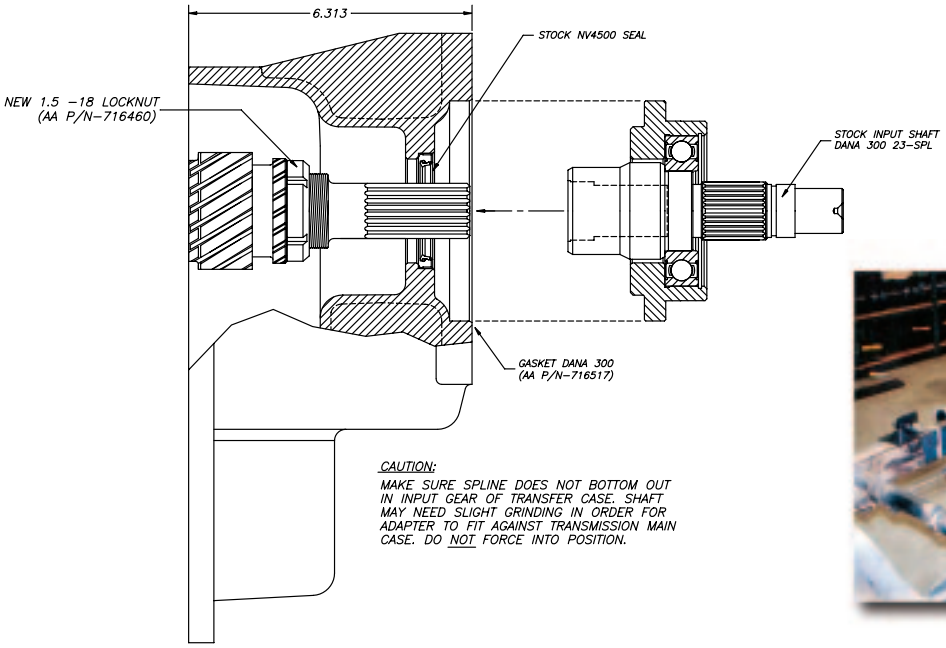
This kit include:

- **P/N 712576** - Bellhousing kit
- **P/N 716021** - Crossmember mount for Dana 300
- **P/N 716048** - Crossmember spacer
- **P/N 716221** - Retainer kit
- **P/N 716050D1** - Shifter handle assembly
- **P/N 52-0229** - 29 spline Dana 300 input

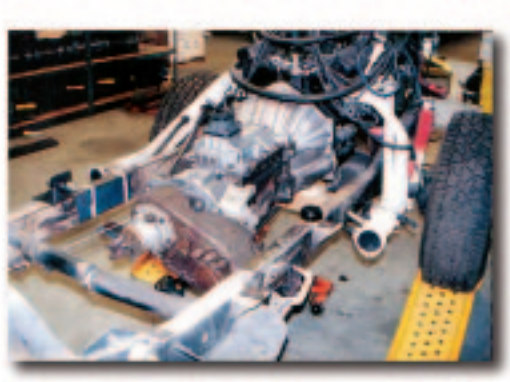
This kit is designed for our NV4500 transmission P/N 26-0029RGM. If you are obtaining your own transmission, you will need to order a new input shaft to work with the bellhousing. **P/N 52-0221** - GM input shaft.

The recommended clutch components for the bellhousings listed above are found in the GM Full Conversion Bellhousing section of this manual.

P/N 716048


6.313
STOCK NV4500 SEAL
NEW 1.5 –18 LOCKNUT
(AA P/N–716460)
STOCK INPUT SHAFT
DANA 300 23–SPL
GASKET DANA 300
(AA P/N–716517)
CAUTION:
MAKE SURE SPLINE DOES NOT BOTTOM OUT IN INPUT GEAR OF TRANSFER CASE. SHAFT MAY NEED SLIGHT GRINDING IN ORDER FOR ADAPTER TO FIT AGAINST TRANSMISSION MAIN CASE. DO NOT FORCE INTO POSITION.

P/N 50-0205



Dana 300 to a Dodge NV4500.

JEEPS 1987 & UP (New Process T/C):

In order to adapt a NV4500 to a New Process transfer case, the transmission can either be a *29 spline or a 23 spline DODGE Standard Duty 4WD NV4500*. When replacing the Peugeot transmission, you will be required to change out the transfer case front input gear. The kits listed below come with a new 29 spline input gear. This input gear ONLY fits New Process 231 transfer cases.

NOTE: On 1999 & newer transmissions, the handle assembly was changed. Our kit packages are designed for the newest transmission shifter configuration. If you have obtained a 1998 or earlier transmission, you will need to substitute **Part No. 716050D1** with **Part No. 716050D**.

JEEP ENGINE WITH A NP231 T/C NV4500 KITS (PEUGEOT REPLACEMENT)

P/N 27-0005T - *29 spl. DODGE Gas NV4500 to Jeep 4.2L 6 cyl. Adapter plate design (Peugeot replacement)*

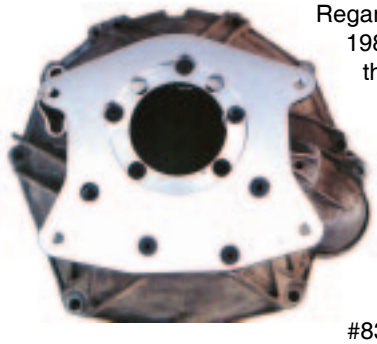
The overall assembly length is 26.175". *These kits require the use of a stock Peugeot (BA10/15) bellhousing.* The 4.2 Jeep 6 cylinder engine can be easily adapted to the NV4500 using our adapter plate to the stock Peugeot bellhousing. The internal release bearing will remain unchanged. When coupled to the Peugeot, the stock transfer case used a 21 spline input gear. This input gear must be replaced to match the output spline of your transmission. *NOTE:* These new gears will only fit the NP231 transfer case, and the transfer case must be disassembled for installation of this input gear.

P/N 50-0204

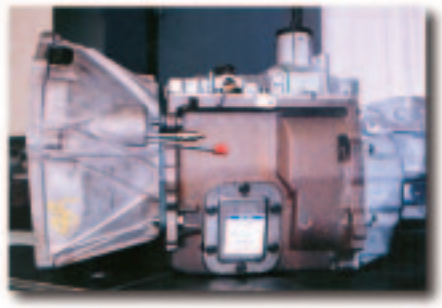
The transfer case adapter is the shortest design possible to couple to the New Process transfer case. This adapter comes with a shifter bracket that allows the use of your stock transfer case shifter. These packaged kits include a new support crossmember which couples to the stock skid pan. Modifications will be required to your floorboard for the shifters, and the skid pan will require new holes to be drilled for our crossmember support. A body lift is normally recommended for clearance. Due to the different transfer case shift controls found on Jeep Cherokees, these kits should not be used with these vehicles.

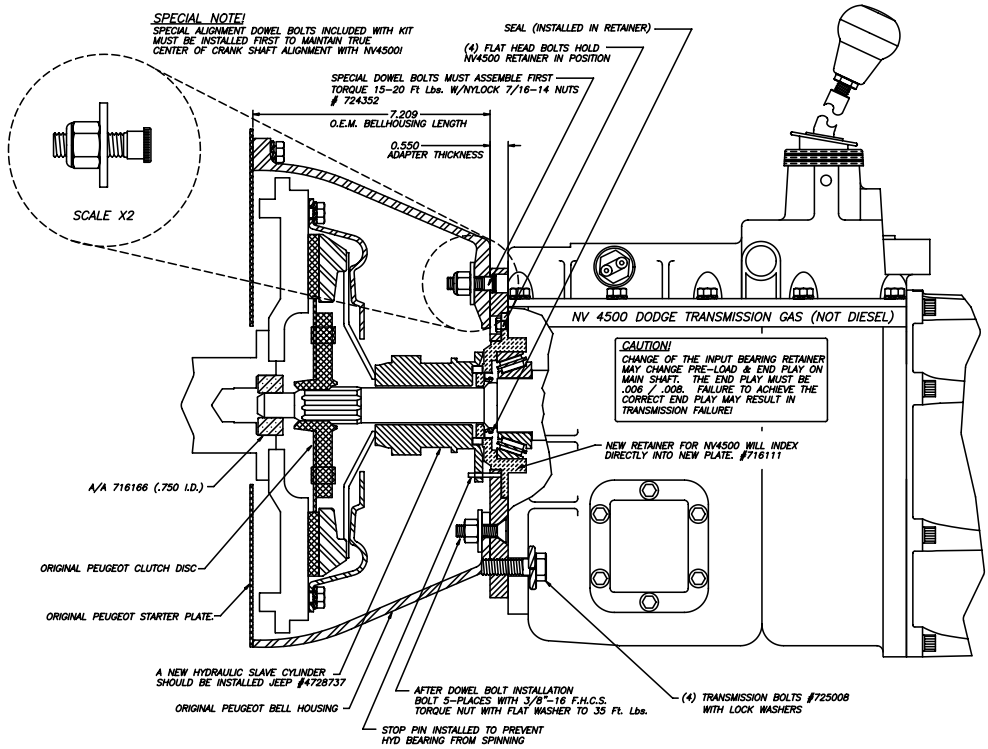
These kits include:

P/N 50-0204 - Transfer case adapter kit
P/N 716008 - Crossmember mount
P/N 716050D1 - Shifter handle assembly
P/N 50-0231 - 29T NP231 T/C input gear



Regarding **P/N 712557** adapter plate to the Peugeot bellhousing: Jeep Wranglers 1987 through 1989, were equipped with a French 5 speed transmission referred to as a "BA10/15". To replace the original Peugeot transmission with a NV4500, we've manufactured a special steel plate that allows you to use the original Peugeot Jeep bellhousing. Our adapter plate bolts to the front of the NV4500 and has two special dowel bolts to align the Peugeot bellhousing. This kit requires you to modified your NV4500 front bearing retainer, then install it on the front of the NV4500 transmission. With this adapter plate and modified retainer installed, the front of the NV4500 is an exact image of the stock Peugeot transmission. The stock internal release bearing should be replaced with Jeep Part #83503383, or our **P/N 716214**. A new pilot bushing is provided in the kit to fit the tip of the NV4500 input shaft. Your stock clutch components can be retained; however, a new clutch disc and pressure plate should be used. We offer a Centerforce clutch disc **(P/N 384193)** and pressure plate **(P/N CF361897)** as an upgrade to a stock clutch system. The transmission must be the Dodge Standard Duty NV4500 with the 1-1/8" 10 spline, 7-1/2" input shaft stickout length.




SPECIAL NOTE!
SPECIAL ALIGNMENT DOWEL BOLTS INCLUDED WITH KIT MUST BE INSTALLED FIRST TO MAINTAIN TRUE CENTER OF CRANK SHAFT ALIGNMENT WITH NV4500!
SEAL (INSTALLED IN RETAINER)
(4) FLAT HEAD BOLTS HOLD NV4500 RETAINER IN POSITION
SPECIAL DOWEL BOLTS MUST ASSEMBLE FIRST TORQUE 15-20 Ft Lbs. W/NYLOCK 7/16-14 NUTS # 724352
7.209
O.E.M. BELLHOUSING LENGTH
0.550
ADAPTER THICKNESS
SCALE X2
NV 4500 DODGE TRANSMISSION GAS (NOT DIESEL)
CAUTION!
CHANGE OF THE INPUT BEARING RETAINER MAY CHANGE PRE-LOAD & END PLAY ON MAIN SHAFT. THE END PLAY MUST BE .006 / .008. FAILURE TO ACHIEVE THE CORRECT END PLAY MAY RESULT IN TRANSMISSION FAILURE!
NEW RETAINER FOR NV4500 WILL INDEX DIRECTLY INTO NEW PLATE. #716111
A/A 716166 (.750 I.D.)
ORIGINAL PEUGEOT CLUTCH DISC
ORIGINAL PEUGEOT STARTER PLATE
A NEW HYDRAULIC SLAVE CYLINDER SHOULD BE INSTALLED JEEP #4728737
ORIGINAL PEUGEOT BELL HOUSING
AFTER DOWEL BOLT INSTALLATION BOLT 5-PLACES WITH 3/8"-16 F.H.C.S. TORQUE NUT WITH FLAT WASHER TO 35 Ft. Lbs.
STOP PIN INSTALLED TO PREVENT HYD BEARING FROM SPINNING
(4) TRANSMISSION BOLTS #725008 WITH LOCK WASHERS

The stock internal release bearing replaced with AA P/N 716214.

Some grinding is required to fit the hydraulic hoses through the bellhousing and bypass the NV4500 transmission.

P/N 27-0012T - 29 spl. DODGE Gas NV4500 to Jeep 4.2L 6 cyl. Full bellhousing design (Page 24)

The overall assembly length is 24.750". The 4.2 Jeep 6 cylinder engine can be easily adapted to the NV4500 using our adapter bellhousing. The internal release bearing will be eliminated and a new external slave cylinder gets mounted on the outside of our bellhousing. Refer to **Page 26-27** for more information on the 712568 bellhousing kit.

When coupled to the Peugeot, the stock transfer case used a 21 spline input gear. A new input gear must be installed to match the output spline of your transmission. *NOTE:* These new gears will only fit the NP231 transfer case; and the transfer case must be disassembled for installation of this input gear. The transfer case adapter is the shortest design possible to couple to the New Process transfer case. This adapter comes with a shifter bracket that allows the use of your stock transfer case shifter. These packaged kits include a new support crossmember which couples to the stock skid pan. Modifications will be required to your floorboard for the shifters, and the skid pan will require new holes to be drilled for our crossmember support. A body lift is normally recommended for clearance. Due to the different transfer case shift controls found on Jeep Cherokees, this kit should not be used with these vehicles.

The 27-0012T kit includes:

- **P/N 50-0204** - Transfer case adapter kit
- **P/N 50-0231** - 29 spline NP231 input
- **P/N 716130H** - Slave Cyl. hose
- **P/N 716050D1** - Shifter handle assembly
- **P/N 712568** - NV4500 conversion bellhousing
- **P/N 716008** - Crossmember mount
- **P/N 716331** - Slave cylinder kit
- **P/N 716130F** - Slave cylinder fitting

This kit is designed for our NV4500 transmission P/N 26-0029RGM. If you are obtaining your own transmission, you will need to order a new input shaft to work with the bellhousing. **P/N 52-0221** - GM input shaft.

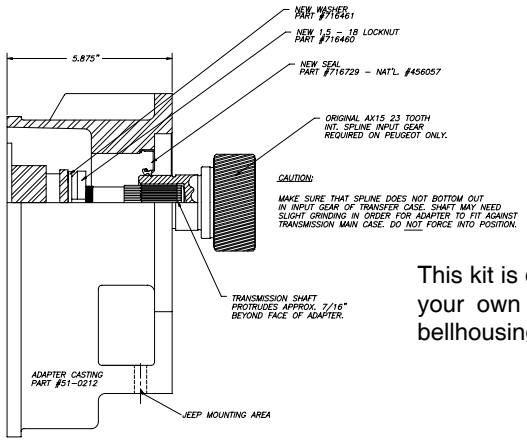
GM ENGINE WITH A NP231 NV4500 KITS (PEUGEOT & AX5 REPLACEMENT)

P/N 27-0011T - 29 spl. DODGE Gas NV4500 to Chevy V6 & V8 Full bhsg. design (See Page 26)

The overall assembly length is 24.750". When performing an engine conversion at the same time as a NV4500 installation, driveline modifications are not normally required. On Peugeot & early AX5 transmissions, our bellhousing will eliminate the stock internal hydraulic release bearing and allow the use of an external slave cylinder. For the later version AX5 that was equipped with an external slave cylinder, this kit will provide a new slave cylinder to replace your stock one. Refer to **Page 46** for more information on the 712576 bellhousing kit.

When coupled to the Peugeot or AX5, the stock transfer case used a 21 spline input gear. A new input gear must be installed to match the output spline of your transmission. *NOTE:* These new gears will only fit the NP231 transfer case, and the transfer case must be disassembled for installation of this input gear. The transfer case adapter is the shortest design possible to couple to the New Process transfer case. This adapter comes with a shifter bracket that allows the use of your stock transfer case shifter.

This packaged kit include a new crossmember support which couples to the stock skid pan. Modifications will be required to your floorboard for the shifters and the skid pan will require new holes to be drilled for our crossmember support. A body lift is normally recommended for clearance. This kit should not be used on Jeep Cherokees due to the different style of transfer case linkage. The recommended clutch components for the bellhousing listed are found in the GM Full Conversion Bellhousing section of this manual.


NEW WASHER PART #716461
NEW 1.5 - 18 LOCKNUT PART #716460
5.875"
NEW SEAL PART #716729 - NAT'L #456057
ORIGINAL AX15 23 TOOTH INT. SPLINE INPUT GEAR REQUIRED ON PEUGEOT ONLY.
CAUTION:
MAKE SURE THAT SPLINE DOES NOT BOTTOM OUT IN INPUT GEAR OF TRANSFER CASE. SHAFT MAY NEED SLIGHT GRINDING IN ORDER FOR ADAPTER TO FIT AGAINST TRANSMISSION MAIN CASE. DO NOT FORCE INTO POSITION.
TRANSMISSION SHAFT PROTRUDES APPROX. 7/16" BEYOND FACE OF ADAPTER.
ADAPTER CASTING PART #51-0212
JEEP MOUNTING AREA

The 27-0011T kit includes:

- **P/N 50-0204** - Transfer case adapter kit
- **P/N 50-0231** - 29T NP231 T/C input gear
- **P/N 716331** - Jeep slave cylinder kit
- **P/N 712576** - Bellhousing kit
- **P/N 716050D1** - Shifter handle assembly
- **P/N 716008** - Crossmember mount

This kit is designed for our NV4500 transmission P/N 26-0029RGM. If you are obtaining your own transmission, you will need to order a new input shaft to work with the bellhousing. **P/N 52-0221** - GM input shaft.

JEEP 4 CYL. ENGINE WITH A NP231 NV4500 KITS (AX5 REPLACEMENT)

P/N 27-0019T - 29 spl. DODGE Gas NV4500 to Jeep 4 cylinder Adap. plate design (AX5 replacement)

The overall assembly length is 25.625". *This kit is designed around the 1989-93 Jeep with the internal release bearing. If your AX5 has the external slave cylinder, we can switch the bellhousing adapter plate kit to accommodate the 1994 & later slave cylinder configuration.* Our adapter plate will permit the NV4500 to bolt directly to the original bellhousing. The original slave cylinder configuration on this conversion is retained and a special Centerforce clutch disc will be required **(Part No. 383824)**. Driveline modifications will be required when retaining the original 4 cylinder engine. Due to the added length a fixed yoke kit **(P/N 50-7906)** is highly recommended.

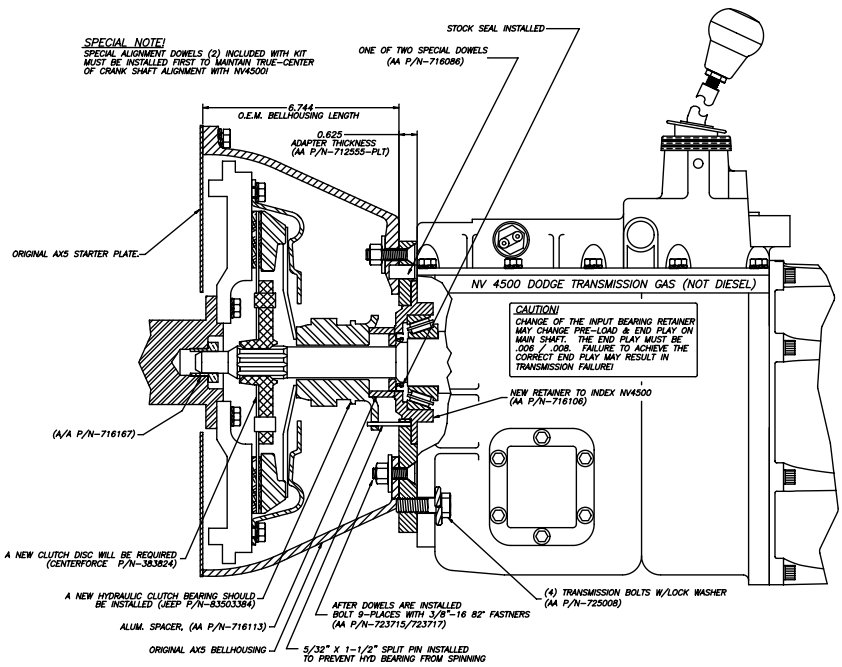
When coupled to the Peugeot or AX5, the stock transfer case used a 21 spline input gear. A new input gear must be installed to match the output spline of your transmission. *NOTE:* These new gears will only fit the NP231 transfer case, and the transfer case must be disassembled for installation of this input gear.

The transfer case adapter is the shortest design possible to couple to the New Process transfer case. This adapter comes with a shifter bracket that allows the use of your stock transfer case shifter. These packaged kits include a new support crossmember which couples to the stock skid pan. Modifications will be required to your floorboard for the shifters and the skid pan will require new holes to be drilled for our crossmember support. A body lift is normally recommended for clearance.

These kits include:

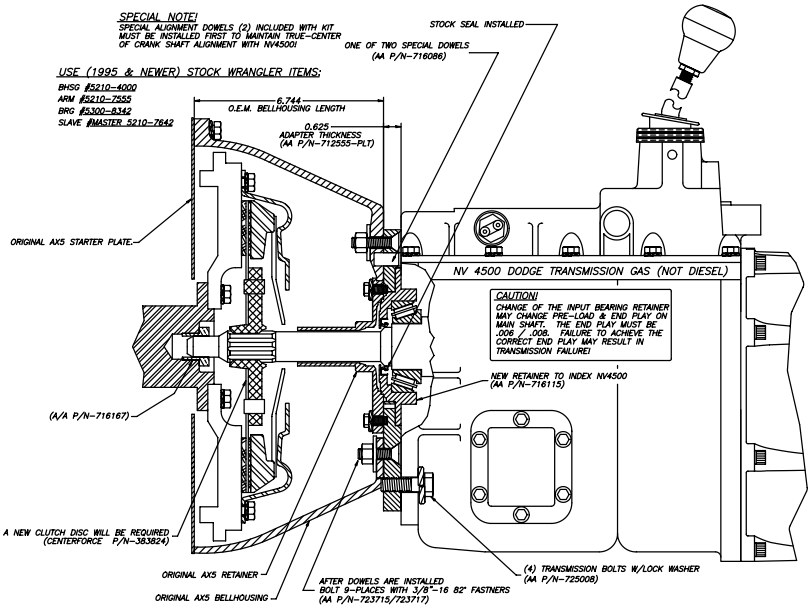
- **P/N 50-0204** - Transfer case adapter kit
- **P/N 712555** - Adapter plate kit
- **P/N 716008** - Crossmember mount
- **P/N 716050D1** - Shifter handle assembly
- **P/N 50-0231** - 29T NP231 T/C input gear

P/N 712555 adapter plate & retainer installed.

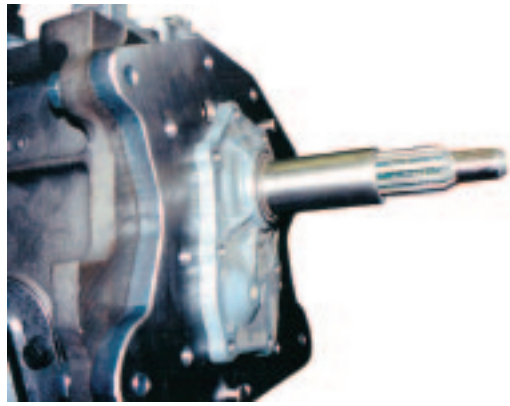

SPECIAL NOTE!
SPECIAL ALIGNMENT DOWELS (2) INCLUDED WITH KIT MUST BE INSTALLED FIRST TO MAINTAIN TRUE-CENTER OF CRANK SHAFT ALIGNMENT WITH NV4500!
STOCK SEAL INSTALLED
ONE OF TWO SPECIAL DOWELS (AA P/N-716086)
6.744 O.E.M. BELLHOUSING LENGTH
0.625 ADAPTER THICKNESS (AA P/N-712555-PLT)
ORIGINAL AX5 STARTER PLATE
NV 4500 DODGE TRANSMISSION GAS (NOT DIESEL)
CAUTION!
CHANGE OF THE INPUT BEARING RETAINER MAY CHANGE PRE-LOAD & END PLAY ON MAIN SHAFT. THE END PLAY MUST BE .006 / .008. FAILURE TO ACHIEVE THE CORRECT END PLAY MAY RESULT IN TRANSMISSION FAILURE!
NEW RETAINER TO INDEX NV4500 (AA P/N-716106)
(A/A P/N-716167)
A NEW CLUTCH DISC WILL BE REQUIRED (CENTERFORCE P/N-383824)
A NEW HYDRAULIC CLUTCH BEARING SHOULD BE INSTALLED (JEEP P/N-83503384)
ALUM. SPACER, (AA P/N-716113)
ORIGINAL AX5 BELLHOUSING
AFTER DOWELS ARE INSTALLED BOLT 9-PLACES WITH 3/8"-16 82° FASTNERS (AA P/N-723715/723717)
(4) TRANSMISSION BOLTS W/LOCK WASHER (AA P/N-725008)
5/32" X 1-1/2" SPLIT PIN INSTALLED TO PREVENT HYD BEARING FROM SPINNING

Regarding **P/N 712555** adapter plate to Jeep AX5 bellhousing *(internal release bearing only)*: In order to adapt the Dodge Standard Duty NV4500 to a Jeep AMC 4 cylinder engine, we found it necessary to adapt directly to the original AMC bellhousing. We have designed this adapter plate to bolt to the NV4500, providing the correct bolt pattern and dowel pins for the stock AX5 bellhousing. This kit requires you to remove and modified your NV4500 front bearing retainer, then install it on the front of the NV4500 transmission. With the adapter plate and retainer installed, the front of the NV4500 is an exact image of the stock AX5 transmission. The stock internal release bearing should be replaced with Jeep Part# 83503384. A new pilot bushing is provided in the kit to fit the tip of the NV4500 input shaft. A new 1-1/8" 10 spline clutch disc is required. We offer this Centerforce clutch disc as **P/N 383824**. The stock pressure plate for the 4 cylinder is retained; however, a new one should be used.

Regarding **P/N 712559** adapter plate to Jeep AX5 bellhousing *(external release bearing only)*: In order to adapt the Dodge Standard Duty NV4500 to a Jeep AMC 4 cylinder engine, we found it necessary to adapt directly to the original AMC bellhousing. This adapter plate design fits the 1994 & newer AX5 bellhousing with the external slave cylinder. This adapter plate provides the correct bolt pattern and dowel pins for the stock AX5 bellhousing. This kit requires you to remove and modify your NV4500 front bearing retainer, then install it on the front of the NV4500 transmission. With the adapter plate and retainer installed, the front of the NV4500 looks just like an AX5 transmission without the front bearing retainer. The front retainer off of your AX5 transmission must be removed and properly index over our modified NV4500 retainer, thus providing a support for your release bearing. A new pilot bushing is provided in the kit to fit the tip of the NV4500 input shaft. A new 1-1/8" 10 spline clutch disc is required. We offer this Centerforce clutch disc as **P/N 383824**. The stock pressure plate for the 4 cylinder is retained; however, a new one should be used. The stock release arm, bearing, and slave cylinder are all retained. *NOTE:* The stock release bearing should be replaced with a new bearing.


SPECIAL NOTE!
SPECIAL ALIGNMENT DOWELS (2) INCLUDED WITH KIT MUST BE INSTALLED FIRST TO MAINTAIN TRUE-CENTER OF CRANK SHAFT ALIGNMENT WITH NV4500!
STOCK SEAL INSTALLED
ONE OF TWO SPECIAL DOWELS (AA P/N-716086)
USE (1995 & NEWER) STOCK WRANGLER ITEMS:
BHSG #5210-4000
ARM #5210-7555
BRG #5300-8342
SLAVE #MASTER 5210-7642
6.744
O.E.M. BELLHOUSING LENGTH
0.625
ADAPTER THICKNESS (AA P/N-712555-PLT)
ORIGINAL AX5 STARTER PLATE.
NV 4500 DODGE TRANSMISSION GAS (NOT DIESEL)
CAUTION!
CHANGE OF THE INPUT BEARING RETAINER MAY CHANGE PRE-LOAD & END PLAY ON MAIN SHAFT. THE END PLAY MUST BE .006 / .008. FAILURE TO ACHIEVE THE CORRECT END PLAY MAY RESULT IN TRANSMISSION FAILURE!
NEW RETAINER TO INDEX NV4500 (AA P/N-716115)
(A/A P/N-716167)
A NEW CLUTCH DISC WILL BE REQUIRED (CENTERFORCE P/N-383824)
ORIGINAL AX5 RETAINER
ORIGINAL AX5 BELLHOUSING
AFTER DOWELS ARE INSTALLED BOLT 9-PLACES WITH 3/8"-16 82° FASTNERS (AA P/N-723715/723717)
(4) TRANSMISSION BOLTS W/LOCK WASHER (AA P/N-725008)

P/N 712559 adapter plate, modified NV4500 retainer, and AX5 retainer installed.



JEEP 6 CYL. ENGINE WITH A NP231 NV4500 KITS (AX15 REPLACEMENT)

P/N 27-0010T - 29 spl. DODGE Gas NV4500 to Jeep 4.0L 6 cyl. Adapter plate design (AX15 1989-93 replacement)

The overall assembly length is 25.850". *This kit requires the use of a stock 1989-93 Jeep AX15 bellhousing with the internal slave cylinder and is not compatible with the stock external slave cylinder design.* The original clutch assembly can also be retained.

When coupled to the AX15, the stock transfer case used a 23 spline input gear. If you obtain a 23 spline NV4500, the stock transfer case input gear can be retained. If you get a later model NV4500 transmission with a 29 spline output shaft, our kit 27-0010T comes with a new 29 spline input gear for the New Process 231 transfer case.

The transfer case adapter is the shortest design possible to couple to the New Process transfer case. This adapter comes with a shifter bracket that allows the use of your stock transfer case shifter. These packaged kits include a new support crossmember which couples to the stock skid pan. Modifications will be required to your floorboard for the shifters, and the skid pan will require new holes to be drilled for our crossmember support. A body lift is normally recommended for clearance. If you would rather change out the internal release bearing, we offer a full bellhousing kit that uses a external slave cylinder.

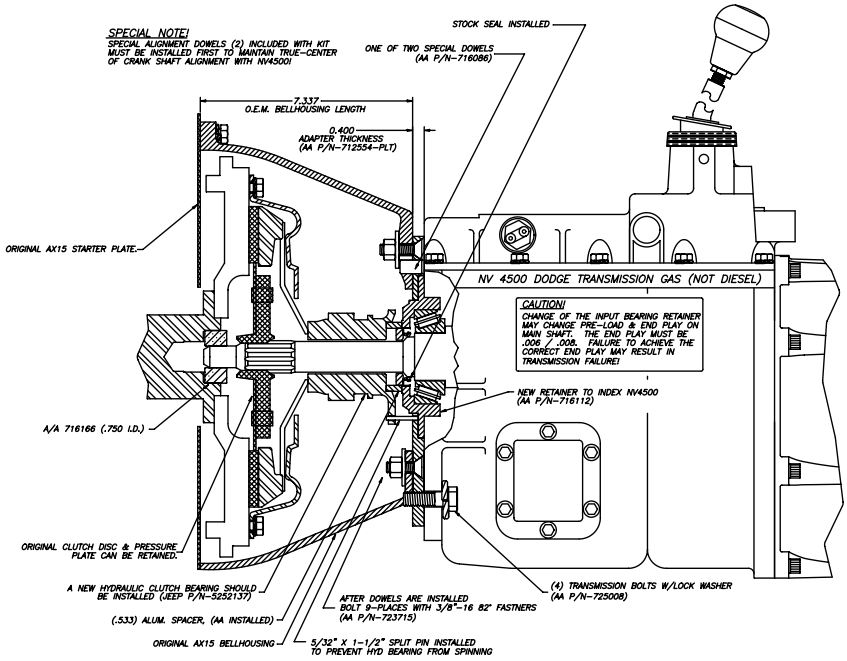
This kit include:

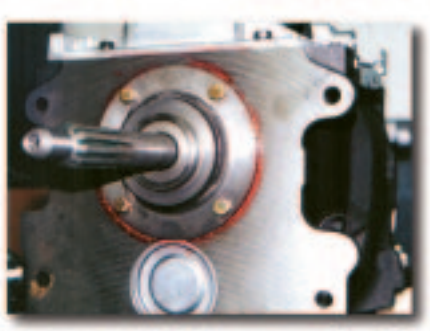
P/N 50-0204 - Transfer case adapter kit
P/N 712554 - Adapter plate kit
P/N 716008 - Crossmember mount
P/N 716050D1 - Shifter handle assembly
P/N 50-0231 - 29 Spline input gear

Regarding **P/N 712554** adapter plate kit to Jeep AX15 bellhousing: In 1989, Jeep introduced the AX15 5 speed with the 4.0 high output engine. By using the Dodge transmission along with this new adapter plate, we are able to adapt to the original Jeep bellhousing and retain all of the original clutch components.

In order to adapt the Dodge Standard Duty NV4500 to a Jeep AMC 6 cylinder engine, we found it easiest to adapt directly to the original AMC bellhousing. We have designed this adapter plate to bolt to the NV4500, providing the correct bolt pattern and dowel pins for the stock AX15 bellhousing. This kit requires you to remove and modify your NV4500 front bearing retainer, then install it on the front of the NV4500 transmission. With the adapter plate and retainer installed, the front of the NV4500 is an exact image of the stock AX15 transmission. The stock internal release bearing stays the same; however, it should be replaced with Jeep Part# 5252137. A new pilot bushing is provided in the kit to fit the tip of the NV4500 input shaft. The stock clutch components can be retained; however, a new clutch disc and pressure plate should be used. We offer a Centerforce clutch disc **(P/N 384193)** and pressure plate **(CF361897)** as an upgrade to a stock clutch system.

NOTE: This kit will only fit AX15 transmissions that were equipped with the internal throw out bearing. AX15 transmissions that have an external slave cylinder must use the full bellhousing kit.


SPECIAL NOTE!
SPECIAL ALIGNMENT DOWELS (2) INCLUDED WITH KIT MUST BE INSTALLED FIRST TO MAINTAIN TRUE-CENTER OF CRANK SHAFT ALIGNMENT WITH NV4500!
STOCK SEAL INSTALLED
ONE OF TWO SPECIAL DOWELS (AA P/N-716086)
7.337
O.E.M. BELLHOUSING LENGTH
0.400
ADAPTER THICKNESS (AA P/N-712554-PLT)
ORIGINAL AX15 STARTER PLATE
NV 4500 DODGE TRANSMISSION GAS (NOT DIESEL)
CAUTION!
CHANGE OF THE INPUT BEARING RETAINER MAY CHANGE PRE-LOAD & END PLAY ON MAIN SHAFT. THE END PLAY MUST BE .006 / .008. FAILURE TO ACHIEVE THE CORRECT END PLAY MAY RESULT IN TRANSMISSION FAILURE!
NEW RETAINER TO INDEX NV4500 (AA P/N-716112)
A/A 716166 (.750 I.D.)
ORIGINAL CLUTCH DISC & PRESSURE PLATE CAN BE RETAINED.
A NEW HYDRAULIC CLUTCH BEARING SHOULD BE INSTALLED (JEEP P/N-5252137)
(.533) ALUM. SPACER, (AA INSTALLED)
ORIGINAL AX15 BELLHOUSING
AFTER DOWELS ARE INSTALLED BOLT 9-PLACES WITH 3/8"-16 82° FASTNERS (AA P/N-723715)
5/32" X 1-1/2" SPLIT PIN INSTALLED TO PREVENT HYD BEARING FROM SPINNING
(4) TRANSMISSION BOLTS W/LOCK WASHER (AA P/N-725008)



Modified front bearing retainer installed on the front of the NV4500 transmission

JEEP 6 CYL. ENGINE WITH A NP231 NV4500 KITS (AX15 REPLACEMENT)

P/N 27-0012T - 29 spl. DODGE Gas NV4500 to Jeep 4.0L 6 cylinder Full bellhousing design
(1989-05 AX15 & NV3550 replacement for both stock external & internal slave cylinder design)

The overall assembly length is 24.750". The 4.0L Jeep 6 cylinder engine can be easily adapted to the NV4500 using our adapter bellhousing. The internal release bearing on the early AX15s will be eliminated, and the external slave cylinder on the later model AX15 and NV3550s is replaced with a new style slave cylinder. Refer to **Page 26-27** for more information on the 712568 bellhousing kit.

When coupled to the AX15, the stock transfer case used a 23 spline input gear. If you obtain a 23 spline NV4500 the stock transfer case input gear can be retained. If you get a later model NV4500 transmission with a 29 spline output shaft, our kit 27-0012T comes with a new 29 spline input gear for the New Process 231 transfer case.

The transfer case adapter is the shortest design possible to couple to the New Process transfer case. This adapter comes with a shifter bracket that allows the use of your stock transfer case shifter. Jeep TJs require a different transfer case shifter bracket which can be switched out before shipping the kit. These packaged kits include a new support crossmember which couples to the stock skid pan. Modifications will be required to your

floorboard for the shifters, and the skid pan will require new holes to be drilled for our crossmember support. A body lift is normally recommended for clearance. Due to the different transfer case shift controls found on Jeep Cherokees, this kit should not be used with these vehicles.

These kits are also supplied with a new external slave cylinder. When coupling this new slave cylinder to your stock master cylinder, you will be required to use one of the following clutch fittings, **P/N 716130** or **716130TJ**. The correct fitting will depend on which configuration you have on your stock master cylinder fitting (fittings are shown below).

This kit include:

P/N 50-0204 - Transfer case adapter kit
P/N 712568 - Bellhousing kit
(For clutch components, refer to the AMC Full Bellhousing subheading at the end of this section)
P/N 716008 - Crossmember mount
P/N 716331 - Jeep slave cylinder kit
P/N 716050D1 - Shifter handle assembly
P/N 716130H - Slave cylinder hose
P/N 50-0231 - 29 Spline input gear

This kit is designed for our NV4500 transmission P/N 26-0029RGM. If you are obtaining your own transmission, you will need to order a new input shaft to work with the bellhousing.
P/N 52-0221 - GM input shaft.

(TJ optional transfer case bracket) **P/N 715542** can be substituted for P/N 715531 which is part of the transfer case adapter kit. The use of this bracket may require some casting modifications.

P/N 716130

P/N 716130TJ

When fitting the NV4500 into a Jeep TJ, the stock console creates a challange to fit the handle in the correct location. We've found that the modifications to the handle as shown here is a easy way to keep the Jeep console looking like stock.

Transfer case shifter bracket

NV4500 handle location (6 cyl. TJ)

CHEVY ENGINE WITH A NP231 NV4500 KITS (AX15/NV3550 REPLACEMENT)

P/N 27-0011T - 29 spl. DODGE NV4500 to Chevy V6 & V8 Full bhsg. design (AX15 & NV3550 replacement)

The overall assembly length is 24.750". When performing an engine conversion at the same time as a NV4500 installation, driveline modifications are not normally required. Our new bellhousing uses a new external slave cylinder that bolts to the outside of the bellhousing. Refer to **Page 47** for more information on the 712576 bellhousing kit.

When coupled to the AX15 or NV3550, the stock transfer case used a 23 spline input gear. If you obtain a 23 spline NV4500, the stock transfer case input gear can be retained. If you obtain a later model NV4500 transmission with a 29 spline output shaft, then a new 29 spline input gear for the New Process 231 transfer case will need to be installed.

The transfer case adapter is the shortest design possible to couple to the New Process transfer case. This adapter comes with a shifter bracket that allows the use of your stock transfer case shifter. Jeep TJs require a different transfer case shifter bracket which can be switched out before shipping the kit. This packaged kit include a new support crossmember which couples to the stock skid pan. Modifications will be required to your floorboard for the shifters, and the skid pan will require new holes to be drilled for our crossmember support. A body lift is normally recommended for clearance. Due to the different transfer case shift controls found on Jeep Cherokees, this kit should not be used with these vehicles.

This kit is also supplied with a new external slave cylinder. When coupling this new slave cylinder to your stock master cylinder, you will be required to use one of the following clutch fittings, **P/N 716130** or **716130TJ**. The correct fitting will depend on which configuration you have on your stock master cylinder fitting (fittings are shown on the previous page).

These kits include:

- **P/N 50-0204** - Transfer case adapter kit
- **P/N 712576** - Bellhousing kit
- **P/N 716008** - Crossmember mount
- **P/N 716130** - Hydraulic master cylinder fitting
- **P/N 716130H** - 42" Stainless hose - 3 fitting
- **P/N 716331** - Jeep slave cylinder kit
- **P/N 716050D1** - Shifter handle assembly
- **P/N 50-0231** - 29 Spline input gear

This kit is designed for our NV4500 transmission P/N 26-0029RGM. If you are obtaining your own transmission, you will need to order a new input shaft to work with the bellhousing. **P/N 52-0221** - GM input shaft.

(TJ optional transfer case bracket) **P/N 715542** can be substituted for P/N 715531 which is part of the transfer case adapter kit.

AMC FULL BELLHOUSINGS FOR THE NV4500:

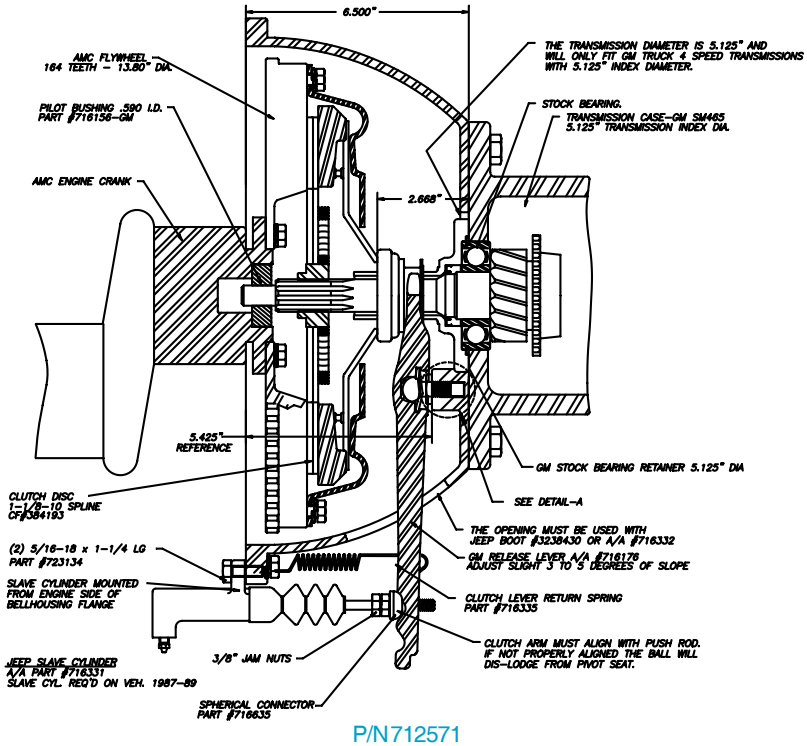
On Jeep transmission conversions that are retaining the original 4.2, 4.0 6 cylinders, or a V8 engine, we manufacture full bellhousings that will bolt directly to your Jeep engine and adapt to the NV4500. Depending of the year of your vehicle, our new bellhousings are compatible with both the external hydraulic clutch controls or a stock mechanical linkage. These bellhousings were designed to be used with either the 1980-82 Iron Duke slave cylinder or the 1972-86 CJ5/CJ7 mechanical linkage. The bellhousing kits come complete with a new clutch release arm, boot, and pilot bushing.

These bellhousings are designed to be used with a standard GM NV4500 input shaft. Most of the kits listed in the Jeep section call for a Dodge 4WD NV4500. If you are ordering one of these bellhousings separately, and you are using a Dodge transmission, then you will also need to purchase this GM input shaft **(AA Part No. 52-0221)**. The two kits listed below are designed to fit the two index diameters of the NV4500 transmission. If you are using a 1993-95 GM NV4500, you will be required to use bellhousing **P/N 712571**. This transmission uses a 5.125" bearing retainer index diameter. If you are using a 1996 & newer GM NV4500 or any Dodge NV4500 (with the input shaft change), you will be required to use bellhousing **P/N 712568**. These year transmissions use a bearing retainer index diameter of 5.600". For GM NV4500 installations, this bellhousing has a bolt-on throw out bearing retainer to support the release bearing. When using a Dodge transmission, the stock bearing index retainer must be removed and machined. The specifications are listed on the instruction sheet provided with this kit.

Both of these bellhousings have provisions for the late model 4.0L flywheel sensor. The stock Jeep clutch disc and pressure plate can be used; however, these bellhousings were designed to be used with the Centerforce clutch components. We have seen on a few occasions where the stock clutch components did not provide adequate clearances. In most cases, this was caused by the flywheel thickness. These bellhousings are compatible with flywheels that are approximately 1" thick from the crank flange. The recommended Centerforce components are as follows: Clutch disc **P/N 384193**, pressure plate **P/N CF361897** (hydraulic linkage), **P/N CF361675** (mechanical linkage) or **P/N CF361890** (1986 & newer hydraulic linkage), and release bearing **P/N N1430**.

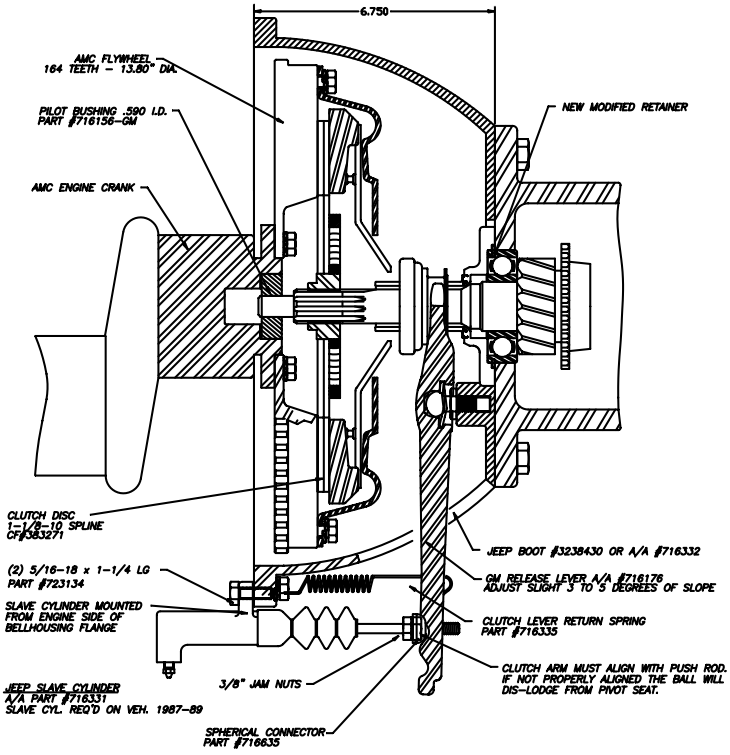
Since the new transmission will require a special pilot bushing for the back of the AMC engine crank, this pilot bushing is furnished with each bellhousing. It is very important that you properly install this new bushing in the back of the AMC crank. *These bushings are made of an oilite bronze material which DO NOT require any type of grease. If grease is applied, this material will bond the input shaft to the bearing causing internal damage. We do recommend soaking the bushing in motor oil before installing.* Verifying the proper depth of the pilot bushing is critical in order for the tip of the new transmission to achieve proper engagement. On some late AMC blocks, Chrysler used a 2-piece pilot bearing assembly. On occasion, we've heard of our pilot bushing not fitting into the AMC crank. The outer steel sleeve on these late model AMC blocks, which appears to be part of the crank, must be removed in order for our pilot bushing to fit.

New pilot bushing installed


6.500"
AMC FLYWHEEL 164 TEETH – 13.80" DIA.
PILOT BUSHING .590 I.D. PART #716156-GM
AMC ENGINE CRANK
THE TRANSMISSION DIAMETER IS 5.125" AND WILL ONLY FIT GM TRUCK 4 SPEED TRANSMISSIONS WITH 5.125" INDEX DIAMETER.
STOCK BEARING.
TRANSMISSION CASE-GM SM465 5.125" TRANSMISSION INDEX DIA.
2.669"
5.425" REFERENCE
GM STOCK BEARING RETAINER 5.125" DIA
CLUTCH DISC 1-1/8-10 SPLINE CF#384193
SEE DETAIL-A
THE OPENING MUST BE USED WITH JEEP BOOT #3238430 OR A/A #716332
(2) 5/16-18 x 1-1/4 LG PART #723134
GM RELEASE LEVER A/A #716176 ADJUST SLIGHT 3 TO 5 DEGREES OF SLOPE
SLAVE CYLINDER MOUNTED FROM ENGINE SIDE OF BELLHOUSING FLANGE
CLUTCH LEVER RETURN SPRING PART #716335
CLUTCH ARM MUST ALIGN WITH PUSH ROD. IF NOT PROPERLY ALIGNED THE BALL WILL DIS-LODGE FROM PIVOT SEAT.
JEEP SLAVE CYLINDER A/A PART #716331 SLAVE CYL. REQ'D ON VEH. 1987-89
3/8" JAM NUTS
SPHERICAL CONNECTOR PART #716635

P/N712571

Bellhousing for 1993-95 GM NV4500


6.750
AMC FLYWHEEL 164 TEETH – 13.80" DIA.
PILOT BUSHING .590 I.D. PART #716156-GM
NEW MODIFIED RETAINER
AMC ENGINE CRANK
CLUTCH DISC 1-1/8-10 SPLINE CF#383271
JEEP BOOT #3238430 OR A/A #716332
(2) 5/16-18 x 1-1/4 LG PART #723134
GM RELEASE LEVER A/A #716176 ADJUST SLIGHT 3 TO 5 DEGREES OF SLOPE
SLAVE CYLINDER MOUNTED FROM ENGINE SIDE OF BELLHOUSING FLANGE
CLUTCH LEVER RETURN SPRING PART #716335
CLUTCH ARM MUST ALIGN WITH PUSH ROD. IF NOT PROPERLY ALIGNED THE BALL WILL DIS-LODGE FROM PIVOT SEAT.
JEEP SLAVE CYLINDER A/A PART #716331 SLAVE CYL. REQ'D ON VEH. 1987-89
3/8" JAM NUTS
SPHERICAL CONNECTOR PART #716635

P/N712568

Bellhousing for 1996 & newer GM or Dodge NV4500

Slave cylinder mounted to the bellhousing showing the position of the fork

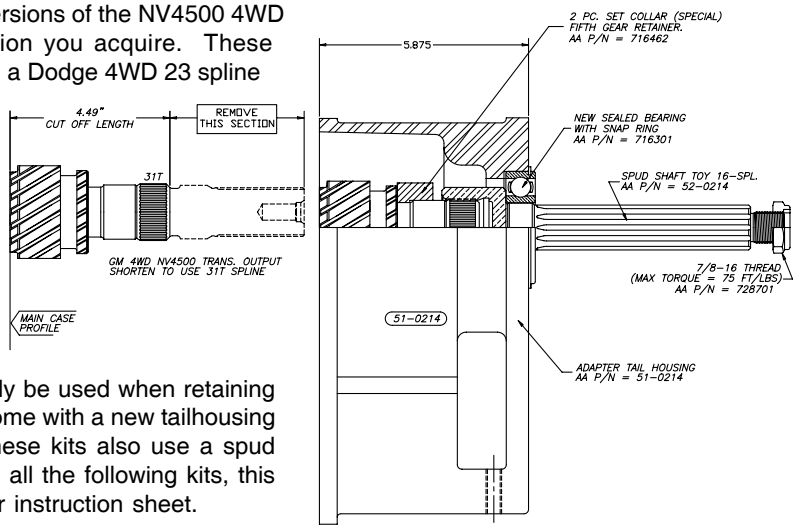
ADAPTER PACKAGES & INDIVIDUAL COMPONENTS FOR TOYOTA LAND CRUISERS

The installation of a NV4500 into Toyota Land Cruiser vehicles has proven to be a very rewarding installation. Not only does this transmission offer the desirable 27% overdrive, but it also offers the ultra low 1st gear ratio necessary for offroad performance. The wheel base of the Land Cruiser is well suited for the length of this new transmission with both the original 6 cylinder engine or a new V8 engine installation. We originally developed the transfer case kits for use with a GM 4WD tailhousing. This tailhousing was over 8" long, and when coupled to the transfer case, created an overall length that was only compatible with V8 installations. In 1996, we discontinued these kits because we found the shorter design is much more desirable.

In working with various 4WD shops, we developed the second phase of adapters for the GM version NV4500 into Land Cruisers. These adapters require the shortening of the NV4500 output shaft and the use of an all new transfer case adapter housing. These adapters shorten the overall length by nearly three inches. We found the newer design to be much more compatible with installations using the stock Toyota 6 cylinder engine and new V8 installations.

In 1997, we began receiving requests to use the Dodge Standard Duty and Heavy-Duty diesel transmissions for Land Cruiser conversions. Since the Dodge transmissions used different output shaft stickout lengths and spline counts compared to the GM, we had to develop new adapters and spud shafts once again. These kits use custom spud shafts that couple onto the 23 tooth or 29 tooth Dodge output shaft. The adapter housings for the Dodge NV4500 are slightly longer than the Chevy NV4500 adapters. When you perform a Ford V8 swap or plan on keeping your stock Land Cruiser 6 cylinder engine, the Dodge NV4500 gives you the bigger advantage. The longer front input shaft allows the use of an adapter plate rather than a custom bellhousing.

We have designed our adapter kits around all three versions of the NV4500 4WD transmission, accommodating whichever transmission you acquire. These kits couple to either a GM 4WD 31 spline output shaft, a Dodge 4WD 23 spline output shaft, or the Dodge 4WD 29 spline output shaft. The GM housing is only 5-7/8" long, and the Dodge housing 6.375" long. The housings also incorporate the transfer case bolt holes necessary for the mechanical transfer case linkage. Ideally, if you are doing a *Chevy engine swap*, the GM transmission is the shortest and easiest to adapt to. The Dodge transmission can also be used, but you will forfeit about 1" of additional length. A *Ford conversion* must use the Standard Duty Dodge NV4500. The Dodge Heavy-Duty NV4500 should only be used when retaining the *stock 6 cylinder*. Each of these adapter kits come with a new tailhousing adapter, replacing the stock tailhousing adapter. These kits also use a spud shaft to couple to the stock NV4500 output shaft. In all the following kits, this output shaft must be shortened as illustrated on your instruction sheet.



TOYOTA LAND CRUISER TRANSFER CASE ADAPTERS FOR THE GM 4WD NV4500:

These kits are designed to fit the *GM 4WD NV4500* transmission. The stock output shaft must be cut to expose the 31 spline portion of the shaft to which we couple. The stock tailhousing is replaced with our new adapter which measures 5.875" long. When bolting this transmission to one of our GM conversion bellhousings, the overall assembled length on all three installations will be 24.875". The transfer case shift controls will need to be modified in order to be used with this transmission. There are two 3/8" holes located on the side of the adapter for the mechanical shifter linkage. If your vehicle has a 3 speed vacuum-type shifter, these holes are not going to be used. They will need to be plugged with the hardware provided in the kit along with a small amount of silicone.

P/N 50-0211 - GM 4WD NV4500 replacing FJ40 3 speed (10 spline)
P/N 50-0213 - GM 4WD NV4500 replacing FJ40 4 speed (16 spline)
***P/N 50-0214** - GM 4WD NV4500 replacing FJ40/FJ60 4 spd. (19 spl. split-case)

***This adapter does not have provisions to retain the stock transmission crossmember. When using this NV4500 adapter, a custom crossmember will need to be fabricated.

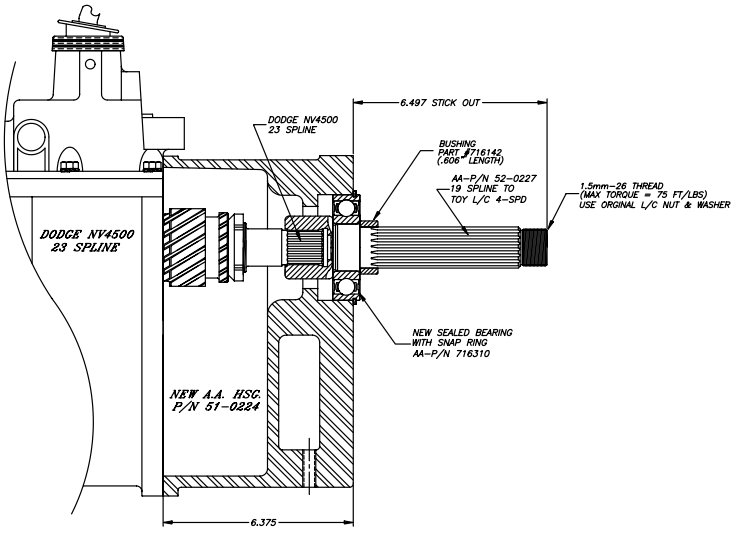
Floorboard modifications are normally required. These photos show the typical modification required.

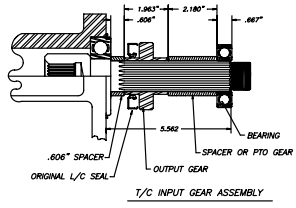
TOYOTA LAND CRUISER TRANSFER CASE ADAPTERS FOR 1993-2000 DODGE 23 Spline 4WD NV4500s:

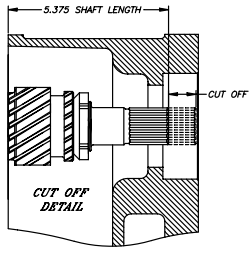
These kits are designed to fit the *Dodge 4WD NV4500* transmission. The stock output shaft must be shortened so that when our spud shaft is assembled it does not push the stock output shaft towards the transmission causing a pre-load on the transmission bearings. The stock tailhousing is replaced with our new adapter which measures 6.375" long. When bolting this transmission to one of our GM conversion bellhousings, the overall assembly length on all three installations will be 25.375". The transfer case shift controls will need to be modified to be used with this transmission. There are two 3/8" holes located on the side of the adapter for the mechanical shifter linkage. If your vehicle has a 3 speed vacuum-type shifter, these holes are not going to be used. They will need to be plugged with the hardware provided in the kit along with a small amount of silicone.

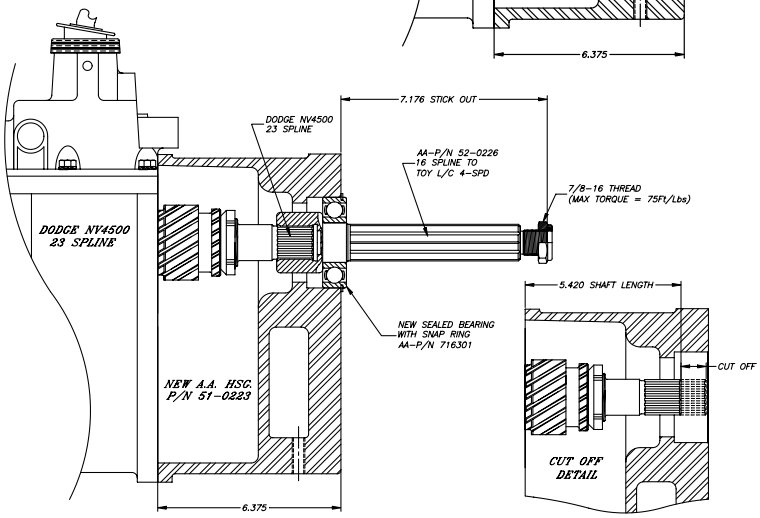
P/N 50-0225 - Dodge 4WD NV4500 replacing FJ40 3 speed (10 spline)
P/N 50-0226 - Dodge 4WD NV4500 replacing FJ40 4 speed (16 spline)
***P/N 50-0227** - Dodge 4WD NV4500 replacing FJ40/FJ60 4 speed (19 spline split-case)

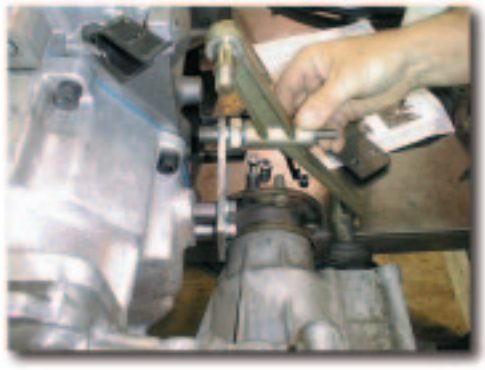
*This adapter does not have provisions to retain the stock transmission crossmember. When using this NV4500 adapter, a custom crossmember will need to be fabricated.


6.497 STICK OUT
DODGE NV4500 23 SPLINE
BUSHING PART #716142 (.606" LENGTH)
AA-P/N 52-0227 19 SPLINE TO TOY L/C 4-SPD
1.5mm-26 THREAD (MAX TORQUE = 75 FT/LBS) USE ORGINAL L/C NUT & WASHER
DODGE NV4500 23 SPLINE
NEW SEALED BEARING WITH SNAP RING AA-P/N 716310
NEW A.A. HSG. P/N 51-0224
6.375






7.176 STICK OUT
DODGE NV4500 23 SPLINE
AA-P/N 52-0226 16 SPLINE TO TOY L/C 4-SPD
7/8-16 THREAD (MAX TORQUE = 75Ft/Lbs)
DODGE NV4500 23 SPLINE
5.420 SHAFT LENGTH
NEW SEALED BEARING WITH SNAP RING AA-P/N 716301
CUT OFF
NEW A.A. HSG. P/N 51-0223
CUT OFF DETAIL
6.375



TOYOTA LAND CRUISER TRANSFER CASE ADAPTERS FOR 1993-2003 DODGE 29 Spline 4WD NV4500s

These kits fit the *Dodge 29 spline 4WD NV4500* transmissions. The stock output shaft must be shortened so that when our spud shaft is assembled it does not push the stock output shaft towards the transmission causing a pre-load on the transmission bearings. The stock tailhousing is replaced with our new adapter which measures 6.375" long. The transfer case shift controls will need to be modified to be used with these transmissions. There are two 3/8" holes located on the side of the adapter for the mechanical shifter linkage. If your vehicle has a 3 speed vacuum-type shifter, these holes are not going to be used. They will need to be plugged with the hardware provided in the kit along with a small amount of silicone.

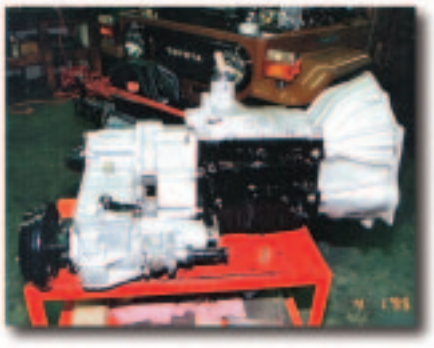
P/N 50-0222 - Dodge 29 spline 4WD NV4500 replacing FJ40 3 speed (10 spline)
P/N 50-0223 - Dodge 29 spline 4WD NV4500 replacing FJ40 4 speed (16 spline)
***P/N 50-0224** - Dodge 29 spline 4WD NV4500 replacing FJ40/FJ60 4 speed (19 spline split-case)

*This adapter does not have provisions to retain the stock transmission crossmember. When using this NV4500 adapter, a custom crossmember will need to be fabricated.

LAND CRUISER TO CHEVY V8 INSTALLATIONS (Transmission Kits):

We offer assembly packages that are designed for both the GM and Dodge NV4500 transmissions. We have listed the transmission package(s) plus the individual components, and any optional or related items that we offer. If we do not show a transmission package specifically for your application, more than likely we offer the individual components to convert your vehicle. *The components in the packages that we do offer can also be purchased separately.* Also noted are some of the modifications you may be required to perform.

We currently offer rebuilt NV4500 transmissions. The GM 4WD NV4500 can be purchased under **P/N 26-0007R**, the Dodge 4WD NV4500 under **P/N 26-0029R**, and the Dodge Heavy Duty 4WD NV4500 under **P/N 26-0020R**. If you wish to obtain your own transmission, please refer to the GM and Dodge identification charts for both current and past OEM part numbers.



The packages listed below are designated by a "G" at the end of the part number for the GM transmission kits, and a "T" for the Dodge 29 spline transmission kits. The transmission packages we offer DO NOT include motor mounts, a rear crossmember, a clutch disc, or a pressure plate. These items must be purchased separately. *NOTE:* On 1999 & newer Dodge transmissions, the handle assembly was changed. Our kit packages are designed for the newest transmission shifter configuration. If you have obtained a 1998 or earlier transmission, you will need to substitute **P/N 716050D1** with **P/N 716050D**.

The transfer case shift controls will need to be modified to be used with these transmissions. The 3 speed transfer cases are usually equipped with a vacuum transfer case shifter control that does not require any additional brackets. If your 3 speed is equipped with a mechanical linkage, then you will need bracket **P/N 715532**.

REPLACING THE 3 Speed TRANSMISSION:

P/N 27-0020G - GM NV4500 for replacing the Land Cruiser FJ40 3 speed (10 spline) T/C - Full bellhousing design

There are two 3/8" holes located on the side of the adapter for the mechanical shifter linkage. If your vehicle has a 3 speed vacuum-type shifter, these holes are not going to be used. They will need to be plugged with the hardware provided in the kit along with a small amount of silicone. When replacing a 3 speed transmission, driveline modifications will be required.

This kit includes:
- **P/N 50-0211** - Transfer case adapter kit *(Adapter length of 5.875")*
- **P/N 712576** - Bellhousing kit
- **P/N 716288** - Land Cruiser slave cylinder bracket
- **P/N 716050C** - Shifter handle
- **P/N 716316** - Throw out bearing

P/N 27-0020T - 29 spline DODGE Gas NV4500 replacing the Land Cruiser FJ40 3 speed (10 spline) T/C - Full bellhousing design

There are two 3/8" holes located on the side of the adapter for the mechanical shifter linkage. If your vehicle has a 3 speed vacuum-type shifter, these holes are not going to be used. They will need to be plugged with the hardware provided in the kit along with a small amount of silicone. When replacing a 3 speed transmission, driveline modifications will be required. The stock front retainer must also be machined to accept the new throw out bearing.

This kit includes:
- **P/N 50-0222** - Transfer case adapter kit *(Adapter length of 6.375")*
- **P/N 716288** - Land Cruiser slave cylinder bracket
- **P/N 712576** - Bellhousing kit
- **P/N 716316** - Throw out bearing
- **P/N 716050D1** - Shifter handle assembly

This kit is designed for our NV4500 transmission P/N 26-0029RGM. If you are obtaining your own transmission, you will need to order a new input shaft to work with the bellhousing. **P/N 52-0221** - GM input shaft.

REPLACING THE 4 Speed TRANSMISSION:

P/N 27-0021G - GM NV4500 for replacing the Land Cruiser FJ40 4 speed (16 spline) - Full bellhousing design

When replacing the stock 4 speed, the added length of the NV4500 will, in most cases, position the engine in an ideal location to eliminate driveline modifications. The output shaft on this kit must be shortened to expose the 31 spline area located under the harmonic balancer.

This kit includes:
- **P/N 50-0213** - Transfer case adapter kit *(Adapter length of 5.875")*
- **P/N 712576** - Bellhousing kit
- **P/N 716288** - Land Cruiser slave cylinder bracket
- **P/N 716316** - Throw out bearing
- **P/N 716050C** - Shifter handle assembly

P/N 27-0021T - 29 spline DODGE Gas NV4500 replacing the Land Cruiser FJ40 4 speed (16 spline) - Full bellhousing design

When replacing the stock 4 speed, the added length of the NV4500 will, in most cases, position the engine in an ideal location to eliminate driveline modifications. The stock front retainer must also be machined to accept the new throw out bearing.

This kit includes:
- **P/N 50-0223** - Transfer case adapter kit *(Adapter length of 6.375")*
- **P/N 716288** - Land Cruiser slave cylinder bracket
- **P/N 712576** - Bellhousing kit
- **P/N 716316** - Throw out bearing
- **P/N 716050D1** - Shifter handle assembly

This kit is designed for our NV4500 transmission P/N 26-0029RGM. If you are obtaining your own transmission, you will need to order a new input shaft to work with the bellhousing. **P/N 52-0221** - GM input shaft.

REPLACING THE 4 Speed TRANSMISSION WITH THE Split 19 Spline TRANSFER CASE

P/N 27-0022G - GM NV4500 for replacing the Land Cruiser FJ40/FJ60 4 speed (19 spline split-case) - Full bellhousing design

This adapter does not have provisions to retain the stock transmission crossmember. When using this NV4500 adapter, a custom crossmember will need to be fabricated.

This kit includes:
- **P/N 50-0214** - Transfer case adapter kit *(Adapter length of 5.875")*
- **P/N 712576** - Bellhousing kit
- **P/N 716288** - Land Cruiser slave cylinder bracket
- **P/N 716316** - Throw out bearing
- **P/N 716050C** - Shifter handle assembly

P/N 50-0214

P/N 27-0022T - 29 spline DODGE Gas NV4500 replacing the L/C FJ40/FJ60 4 speed (19 spl. split-case) - Full bellhousing design

This adapter does not have provisions to retain the stock transmission crossmember. When using this NV4500 adapter, a custom crossmember will need to be fabricated. This kit requires the installation of a GM input shaft into your Dodge transmission. The stock front retainer must also be machined to accept the new throw out bearing.

This kit includes:
- **P/N 50-0224** - Transfer case adapter kit *(Adapter length of 6.375")*
- **P/N 716288** - Land Cruiser slave cylinder bracket
- **P/N 712576** - Bellhousing kit
- **P/N 716316** - Throw out bearing
- **P/N 716050D1** - Shifter handle assembly

BELLHOUSINGS & ADAPTER PLATE CONSIDERATIONS:

When using one of our full bellhousings, we recommend that you use an 11" flywheel and clutch assembly. A Centerforce clutch and our large diameter release bearing are recommended in order to achieve proper disengagement with the Toyota Land Cruiser slave cylinder. The full bellhousing kits come complete with a pilot bushing and stock GM clutch release arm. Both the GM and Dodge assembly kits utilize a full conversion bellhousing. The Centerforce clutch components for these bellhousings are as follows:

P/N CF165473S - Low profile Centerforce pressure plate with modified weights
P/N 383735 - 11" Clutch disc with 1-1/8" 10 spline

The adapter plates are designed to fit a standard Ford or Chevy bellhousing. The adapter plate provides a mounting surface identical to a Ford or Chevy transmission. These adapter plates are designed around the Dodge 4WD transmissions with the 1-1/8" 10 spline input shaft. The Dodge transmissions have a 1" longer input shaft that compensates for the 1" long adapter plate. These kits come complete with a pilot bushing and necessary hardware.

Chevy Adapter Plate:
When using an adapter plate to convert to a Chevy block, **P/N 712550** should be used. This kit would require the same clutch components that are listed above. The front Dodge bearing retainer will require modifications. The GM bellhousing would need the 5.125" alignment index. The slave cylinder bracket required is **P/N 716287**. We recommend using our full bellhousing kit rather then the adapter plates in these vehicles.

Ford Adapter Plate:
When using an adapter plate to convert to a Ford block, **P/N 712551** should be used. This kit would require the clutch components that are listed in the Ford Adapter Plate section of this manual. The Ford bellhousing would need the 4.848" alignment index. We do not offer any bracketry to assist you in the mounting of the slave cylinder.

RETAINING THE STOCK 6 CYLINDER:

We offer the adapter components for the NV4500 to the stock Land Cruiser 6 cylinder engines. These parts ONLY work with the *Dodge Heavy-Duty 4WD NV4500* with the 1-1/4" 10 spline input shaft. NO EXCEPTIONS. *These kits require the use of a stock Toyota Land Cruiser 4 speed bellhousing.* The adapter plate are not compatible with a 3 speed bellhousing. The overall assembly length is 26.125". When using this new transmission with the original Toyota 6 cylinder, you will normally have driveline modifications of approximately 5". This will position the transfer case further back, requiring removal of the original tubular crossmember. A new crossmember will be needed to support the transfer case.

NOTE: On 1999 & newer Dodge transmissions, the handle assembly was changed. Our kit packages are designed for the newest transmission shifter configuration. If you have obtained a 1998 or earlier transmission, you will need to substitute **P/N 716050D1** with **P/N 716050D**.

Parts required for replacing the Land Cruiser FJ40 3 speed (10 spline)
Our adapter plate will only work with the stock Toyota Land Cruiser 4 speed bellhousing. The bearing retainer snout must be turned down to a 1.5" diameter. When replacing a 3 speed transmission, you will need to use the Land Cruiser 4 speed bearing collar to fit the new Land Cruiser bearing supplied in the clucth kit.

P/N CF315518 - Centerforce 1-1/4" 10 spline clutch disc (fits 1974-80 flywheels)
P/N 50-0222 - Transfer case adapter kit *(Adapter length of 6.375")*
P/N 712579 - Bellhousing & adapter plate kit
P/N 716050D1 - Shifter handle assembly

Parts required for replacing the Land Cruiser FJ40 4 speed (16 spline)
Our adapter plate will only work with the stock Toyota Land Cruiser 4 speed bellhousing. The bearing retainer snout must be turned down to a 1.5" diameter. You will need to use the stock Land Cruiser bearing collar to fit the new Land Cruiser bearing supplied in the clutch kit.

P/N CF315518 - Centerforce 1-1/4" 10 spline clutch disc (fits 1974-80 flywheels)
P/N 50-0223 - Transfer case adapter kit *(Adapter length of 6.375")*
P/N 712579 - Bellhousing & adapter plate kit
P/N 716050D1 - Shifter handle assembly

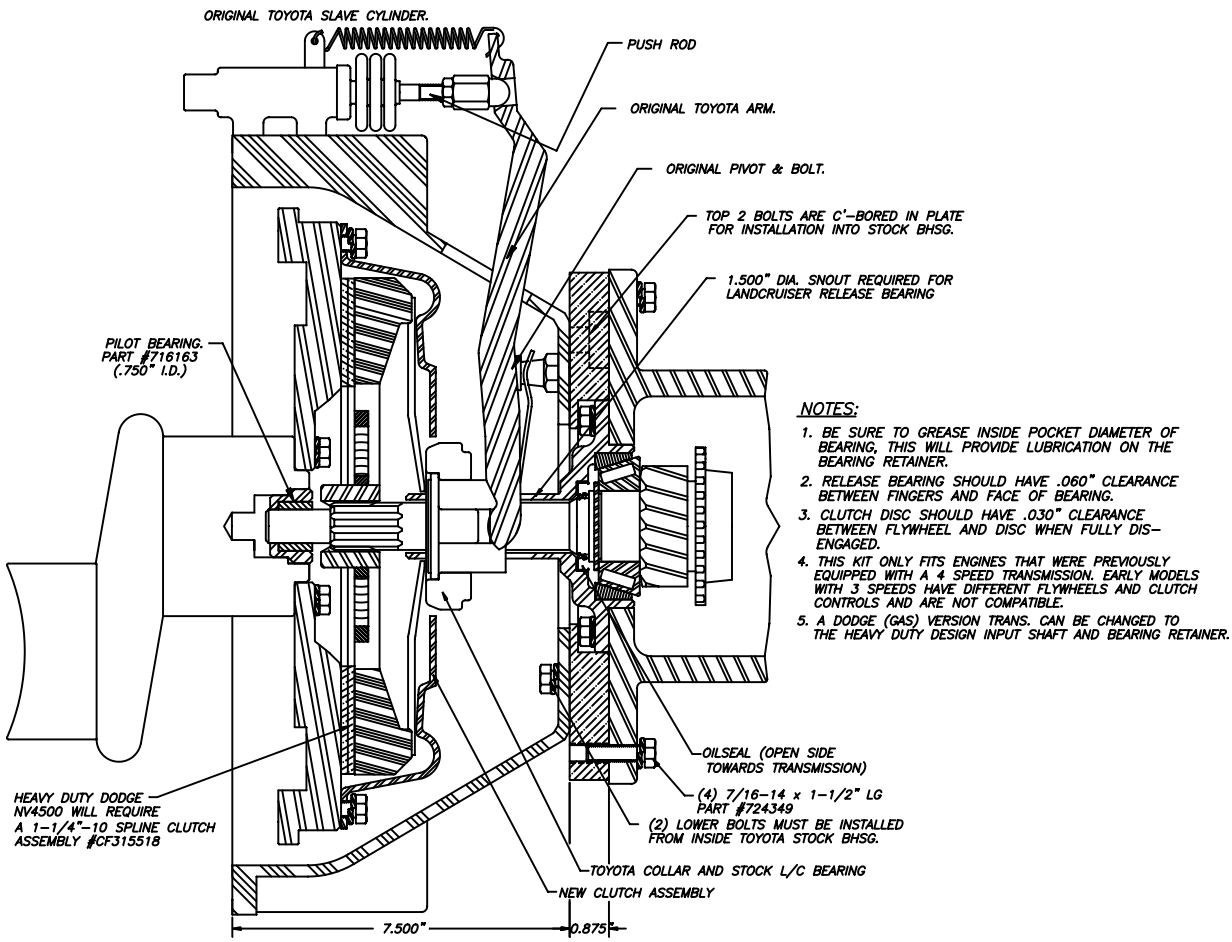
Parts required for replacing the Land Cruiser FJ40/FJ60 4 speed (19 spline)
Our adapter plate will only work with the stock Toyota Land Cruiser 4 speed bellhousing. The bearing retainer snout must be turned down to a 1.5" diameter. You will need to use the Land Cruiser bearing collar to fit the new Land Cruiser bearing supplied in the clutch kit. This adapter does not have provisions to retain the stock transmission crossmember. When using this NV4500 adapter, a custom crossmember will need to be fabricated.

P/N CF315518 - Centerforce 1-1/4" 10 spline clutch disc (fits 1974-80 flywheels)
P/N 50-0224 - Transfer case adapter kit *(Adapter length of 6.375")*
P/N 712579 - Bellhousing & adapter plate kit
P/N 716050D1 - Shifter handle assembly

LAND CRUISER BELLHOUSING ADAPTERS RETAINING the STOCK 6 CYLINDER:

For a NV4500 installation retaining the Land Cruiser 6 cylinder, we offer three kit designs. The first two kits listed below are designed to utilize a GM NV4500. These kits come complete with a full bellhousing, steel adapter plate, clutch release arm, and slave cylinder bracket. These kits fit both the early and late GM NV4500 bolt patterns. The third kit listed below is specifically designed for the Dodge Heavy-Duty NV4500. This kit uses an adapter plate that bolts to the front of the Dodge NV4500, and then accepts a standard Land Cruiser 4 speed bellhousing. This kit requires the front retainer of the transmission to be turn down in diameter, as well as a special Centerforce clutch assembly, **P/N CF315518** (fits 1974 to 1980 flywheels). This kit, however, retains all of the stock clutch linkage and the stock slave cylinder.

P/N 712578 - GM NV4500 (up to 1995) to L/C bhsg
P/N 712578-L - GM NV4500 (1996 & up) to L/C bhsg
P/N 712579 - Dodge H.D. NV4500 to L/C 6 cylinder

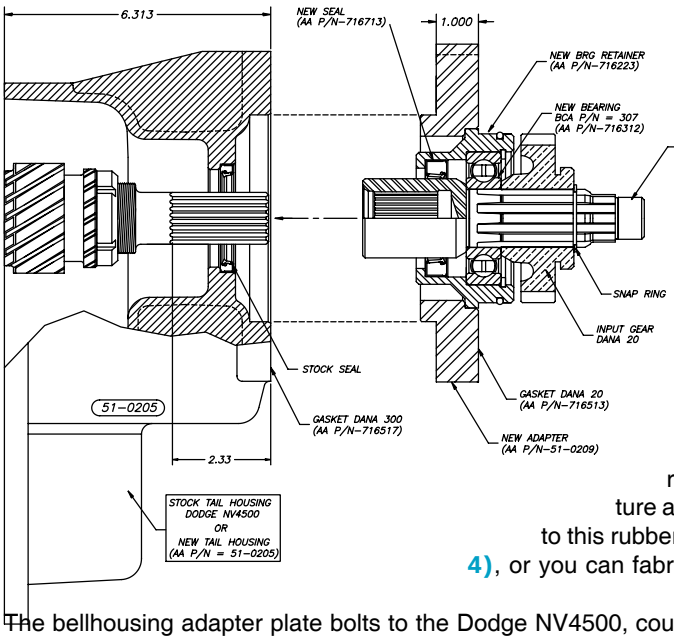

ORIGINAL TOYOTA SLAVE CYLINDER.
PUSH ROD
ORIGINAL TOYOTA ARM.
ORIGINAL PIVOT & BOLT.
TOP 2 BOLTS ARE C'-BORED IN PLATE FOR INSTALLATION INTO STOCK BHSG.
1.500" DIA. SNOUT REQUIRED FOR LANDCRUISER RELEASE BEARING
PILOT BEARING. PART #716163 (.750" I.D.)
NOTES:
1. BE SURE TO GREASE INSIDE POCKET DIAMETER OF BEARING. THIS WILL PROVIDE LUBRICATION ON THE BEARING RETAINER.
2. RELEASE BEARING SHOULD HAVE .060" CLEARANCE BETWEEN FINGERS AND FACE OF BEARING.
3. CLUTCH DISC SHOULD HAVE .030" CLEARANCE BETWEEN FLYWHEEL AND DISC WHEN FULLY DIS-ENGAGED.
4. THIS KIT ONLY FITS ENGINES THAT WERE PREVIOUSLY EQUIPPED WITH A 4 SPEED TRANSMISSION. EARLY MODELS WITH 3 SPEEDS HAVE DIFFERENT FLYWHEELS AND CLUTCH CONTROLS AND ARE NOT COMPATIBLE.
5. A DODGE (GAS) VERSION TRANS. CAN BE CHANGED TO THE HEAVY DUTY DESIGN INPUT SHAFT AND BEARING RETAINER.
OILSEAL (OPEN SIDE TOWARDS TRANSMISSION)
(4) 7/16-14 x 1-1/2" LG PART #724349
(2) LOWER BOLTS MUST BE INSTALLED FROM INSIDE TOYOTA STOCK BHSG.
HEAVY DUTY DODGE NV4500 WILL REQUIRE A 1-1/4"-10 SPLINE CLUTCH ASSEMBLY #CF315518
TOYOTA COLLAR AND STOCK L/C BEARING
NEW CLUTCH ASSEMBLY
7.500"
0.875"

ADAPTER PACKAGES & INDIVIDUAL COMPONENTS for 1966-77 BRONCOS

We offer a complete adapter package for a Bronco transmission swap. *The components in this package can also be purchased separately.* We currently offer rebuilt NV4500 transmissions. The Dodge 4WD NV4500 is cataloged under **Part No. 26-0029R**. If you wish to obtain your own transmission, please refer to the Dodge identification charts for both current and past OEM part numbers.

The Dodge NV4500 has been recognized as the ultimate manual transmission of choice for the early Broncos. With a 5.61:1 low gear ratio, 27% overdrive, and a synchro-reverse gear, this transmission works well with these vehicles. The adapters we manufacture only fit the *Dodge Standard Duty 23 and 29 spline 4WD transmissions*.

NOTE: On 1999 & newer Dodge transmissions, the handle assembly was changed. Our kit packages are designed for the newest transmission shifter configuration. If you have obtained a 1998 or earlier transmission, you will need to substitute **P/N 716050D1** with **P/N 716050D**.


6.313
NEW SEAL (AA P/N-716713)
1.000
NEW BRG RETAINER (AA P/N-716223)
NEW BEARING BCA P/N = 307 (AA P/N-716312)
NEW T/C INPUT SHAFT DODGE 23-SPL TO D20 T/C (AA P/N-52-0209)
SNAP RING
INPUT GEAR DANA 20
STOCK SEAL
GASKET DANA 20 (AA P/N-716513)
51-0205
GASKET DANA 300 (AA P/N-716517)
NEW ADAPTER (AA P/N-51-0209)
2.33
STOCK TAIL HOUSING DODGE NV4500 OR NEW TAIL HOUSING (AA P/N = 51-0205)

The transfer case adapter for these kits couple to the stock Dodge tailhousing. The adapter is furnished with either a new 23 or 29 spline spud shaft to adapt the Dodge transmission to the Dana 20 transfer case. The stock Dodge housing requires the two aluminum bosses to be cut off for proper transfer case shifter clearance with the Bronco Dana 20 (see photo above).

Ford Broncos used two styles of transfer case shift controls. These are known as the "T" style and the "J" style. A shifter bracket is included in these kits to retain only the "T" style linkage. Vehicles equipped with the "J" style can either be changed over to the "T" style linkage, or the necessary brackets can be fabricated to use the "J" linkage. The stock crossmember on these vehicles must be removed, since our adapter does not have the provision to retain the stock angular support. We have included a new rubber support mount that bolts to our adapter. We also manufacture a new structural member that fits between your frame rails and bolts to this rubber mount. This mount can be purchase separately **(P/N 716000-4)**, or you can fabricate your own crossmember support.

The bellhousing adapter plate bolts to the Dodge NV4500, coupling it to your stock Ford bellhousing. *This kit requires the use of a stock Ford bellhousing with a 4.848" index diameter.* We have provided a new clutch disc in the kit since the stock Ford is 1-1/16" 10 spline and the NV4500 is 1-1/8" 10 spline. (For the clutch components, refer to the Ford Adapter Plate section of this manual). When installing these components, driveline and floorboard modifications will be required.

P/N 27-0044T - 29 spl. DODGE NV4500 to Ford Dana 20

P/N 383735 - 11" Centerforce clutch disc
P/N 50-0230 - Dodge 29 sp. NV4500 to Bronco Dana 20 T/C adapter *(adapter 7.300", tranny 12.375")*
P/N 712551 - Dodge NV4500 to Ford bellhousing 4.848" index
P/N 716101-2 - Rubber crossmember mount
P/N 716050D1 - Shifter handle assembly

If you obtain a early Dodge NV4500 transmission with a 23 spline output shaft, you will need to replace kit P/N 50-0230 with the kit listed below.

P/N 50-0209 - Dodge 23 sp. NV4500 to Bronco Dana 20 T/C adapter *(adapter 7.300", tranny 12.375")*

ADAPTER PACKAGES & INDIVIDUAL COMPONENTS for 2WD & 4WD FORD TRUCKS

We offer complete NV4500 adapter packages for Ford 4WD full size trucks and list out the components for the 2WD trucks. We currently offer rebuilt NV4500 transmissions. The Dodge 4WD NV4500 is cataloged under **P/N 26-0029R**. If you wish to obtain your own transmission, please refer to the Dodge identification charts for both current and past OEM part numbers. *NOTE:* On 1999 & newer Dodge transmissions, the handle assembly was changed. Our kit packages are designed for the newest transmission shifter configuration. If you have obtained a 1998 or earlier transmission, you will need to substitute **P/N 716050D1** with **P/N 716050D**.

FORD 4WD NV4500 KIT:

Up to 1979, Ford used both the NP203 chain-driven and NP205 gear-driven transfer cases. In 1980, they switched to the NP208 chain-driven transfer case. The early NP203 was normally used as a remote gear box - in which Ford used a short driveshaft between the transmission and transfer case. The NP205 and NP208 were normally coupled directly to the back side of the transmission with an adapter housing. These transfer cases have a circular bolt pattern and a 31 spline input gear. The stock transmission adapters mounted to this transfer case use a 31 spline output shaft. There are different output shaft lengths to consider when coupling to these two different transfer cases. Our transfer case adapter fits all the different output shaft stickouts; however, the NV4500 stock output shaft or our spud shaft may require shortening to fit properly. The best way to determine your requirements is to measure your existing transmission output shaft stickout in relation to the stock tailhousing.

P/N 27-0040T - 29 Spl. DODGE NV4500 to Ford Transfer Case

This packaged kit is designed to be used with a *Dodge 4WD NV4500*. The overall length is 27.500". All Ford transfer cases, whether NP205 or NP208, always require a 31 spline male input shaft. Over the years, we have seen some variation as to the required stickout length for Ford 4WD transfer case input splines. This length will vary between .750" to 1.50". The cutoff length of the Dodge NV4500 output shaft can be determined by the amount of the desired stickout length of your new 31 spline spud shaft. We have included a new rubber crossmember support to fit our adapter. The stock crossmember will require some modifications to bolt to our rubber crossmember support. Also included in this kit is a transfer case shifter linkage bracket. This bracket provides the mounting hole for the shifter pivot bolt.

The bellhousing adapter plate in this kit retains the stock bellhousing. *This kit requires the use of a stock Ford bellhousing with a 4.848" index diameter.* The stock clutch disc must be changed to a 1-1/8" 10 spline to fit the NV4500 transmission. The necessary clutch components for this conversion can be found in the Ford Adapter Plate section of this manual.

This kit include:

- **P/N 712551** - Adapter plate to standard Ford bellhousing 4.848" index
- **P/N 716101-2** - Rubber mount for crossmember
- **P/N 716050D1** - Shifter handle assembly
- **P/N 50-0220** - Dodge 29 spl. NV4500 to Ford NP205/208 T/C adapter

If you obtain a early Dodge NV4500 transmission with a 23 spline output shaft, you will need to replace kit P/N 50-0220 with the kit listed below.

- **P/N 50-0207** - Dodge 23 spl. NV4500 to Ford NP205/208 T/C adapter

FORD 2WD NV4500 KIT:

We also offer a list of parts required for Ford 2WD applications. These parts are designed to be used with a *Dodge 2WD NV4500*. We do not carry this model transmission, but we can special order it upon request. The 1998 & newer transmissions do not offer any type of speedometer provisions. When obtaining your transmission, we recommend that a 1997 & earlier transmission be obtained. *NOTE:* The handle assembly in this kit fits the 1998 & earlier transmission handle configuration. If you have decided to use a later model transmission without a speedometer drive, then you will need to substitute **P/N 716050D** with **P/N 716050D1**.

The bellhousing adapter plate in this kit retains the stock bellhousing. *This kit requires the use of a stock Ford bellhousing with a 4.848" index diameter.* The stock clutch disc must be changed to a 1-1/8" 10 spline to fit the NV4500 transmission. The necessary clutch components for this conversion can be found in the Ford Adapter Plate section of this manual. We have included a new rubber crossmember support to fit the stock tailhousing. The stock crossmember will require some modifications to bolt to our rubber crossmember support. This kit requires a slip yoke which can be purchased from your local Dodge dealership.

- **P/N 712551** - Adapter plate to standard Ford bellhousing 4.848" index
- **P/N 716101-2** - Rubber mount for crossmember
- **P/N 716050D** - Shifter handle assembly

ADAPTER PACKAGES & INDIVIDUAL COMPONENTS for CHEVY TRUCKS

The adapters we manufacture are designed for the *GM 4WD NV4500*. We offer complete adapter packages for the most common transmission swaps. If we do not show a transmission package specifically for your application, more than likely we offer the individual components to convert your vehicle. *The components in the packages that we do offer can also be purchased separately.* In the applications to follow, we have listed the transmission package(s) plus the individual components, and any optional or related items that we offer. Also noted are some of the modifications you may be required to perform.

We currently offer rebuilt NV4500 transmissions. The GM 4WD NV4500 can be purchased under **P/N 26-0007R**. If you wish to obtain your own transmission, please refer to the GM identification charts for both current and past OEM part numbers.

GM TRANSFER CASE SUMMARY

The early GMs used a Dana 20 style transfer case and no adapters are available for these vehicles. In 1971, New Process introduced a model NP203 (chain-driven) and NP205 (gear-driven) transfer case. Both of these transfer cases used various input splines. As a general rule, all of the transfer cases that couple to a TH350 automatic are normally a 27 spline input; and when coupled to a manual transmission a 10 spline input; and when coupled to a TH400 a 32 spline input.

The NP203 was used from 1971 to 1979. This transfer case was mated to the TH350, TH400, and SM465 transmission.

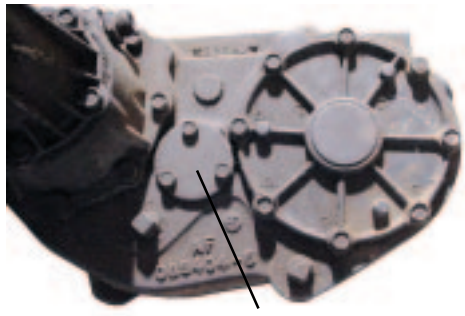
The NP205 was used from 1971 to 1991. The 1971-79 NP205 was only found mated to the TH350 and the SM465 transmission. For 1-ton vehicles between 1979 to 1984/85, GM used a TH400 and the SM465. The TH400 was equipped with a female 32 spline input, while the SM465 retained the male 10 spline input. These model transfer cases had a figure-eight front bolt pattern (shown left). In 1985-91 vehicles, GM started using a different version of the NP205. The input spline for both the TH400 and the SM465 transmissions was a female 32 spline, and the front bolt pattern changed to circular bolt pattern.

In 1981, GM introduced the NP208 chain-driven transfer case. The NP208 also has a circular bolt pattern, and had either a 27 or 32 spline input. In 1988, GM next introduced the NP241 chain-driven transfer case. This transfer case, as far as bolt pattern and splines are concerned, is identical to the NP208. In 1991/92, GM switched the NP241 from a right hand front driveshaft to a left hand and went to a independent front axle. The biggest problem with the new front axle was front drive shaft clearance on the bellhousing. The 32 spline transfer case found in these later model vehicles should bolt directly to the stock GM NV4500 4WD tailhousing. The length of spline engagement should be checked for proper engagement. The transfer case shift linkage or stock tailhousing may need some modifications to provide clearance for the transfer case.

GM NEW PROCESS 205 TRANSFER CASE:

The New Process 205 is by far one of the best transfer cases ever built. This cast iron, all-gear driven transfer case is classified as being reliable and totally bulletproof. This gear box has been used not only in GM production line vehicles, but also Ford and Dodge production models. The NP205 is sometimes hard to identify. The data plate for this transfer case is located on the upper front of the case; but in many cases this information has been worn off, and subsequently a NP205 gets confused with a NP203 transfer case. The easiest way to identify the NP205 is by the rear 3 bolt cover on the idler shaft.

Once you know that you have a NP205 transfer case, the next thing is to identify the make (GM, Dodge or Ford). The casting numbers on these cases are of no help. The Ford transfer case is the easy one to identify because it is a left hand drop (front driveshaft on the driver's side). The Dodge and GM NP205s are a bit more difficult. The cases are identical, both having the figure-eight bolt pattern. Counting the front input gears are the easiest way to distinguish between the two. GM transfer cases use either a male 27 spline (TH350), a male 10 spline (SM465), or a female 32 spline (TH400) input gear. The Dodge NP205 was either a female 23 or 29 spline input gear. The GM female 32 spline shafts were offered in two stickout lengths: 1979 to 1984/85 had a short stickout, while the 1985-91 had a long stickout. The 32 spline stickout is important to know when adapting to a different transmission.



3 bolt cover found on NP205 transfer cases

The NP205 input gears, no matter what vintage or model, are always the same internally. This allows you to swap the input shaft between the various model transfer cases. One difference that must be taken into consideration is the front input shaft bearing. The male 10 & 27 spline GM transfer cases used a smaller bearing than the female 32 spline transfer case. The last thing that should be noted is the bolt pattern change that occurred on the case of the GM NP205 transfer case. In 1985, the case was changed from a figure-eight bolt pattern to a circular-six bolt pattern. This circular bolt pattern is identical to that of the NP208/241. The stock adapter housings that GM used are similar; however, the NP205 stock adapter housings have a notch in them for transfer case shifter linkage clearance.

SM465 to NP205 stock adapter

NP205 originally coupled to a TH350: This transfer case, used in vehicles between 1971-79, has a male 27 spline input. The bolt pattern is a figure-eight configuration.

NP205 originally coupled to a SM465: Used in vehicles 1971 to 1984/85, this transfer case has a male 10 spline input. The bolt pattern is a figure-eight configuration.

NP205 originally coupled to a TH400: Used in 1979 to 1984/85 vehicles, this transfer case has a female 32 spline input. The bolt pattern is a figure-eight configuration. This transfer case has a short input gear stickout of 1.50" from the face of the transfer case.

TH350 to NP205 stock adapter

NP205 originally coupled to a SM465 or TH400: input gear stickout of approximately 3.50", and a configuration. This transfer case uses a larger front When using this transfer case, caution should be Transfer cases with this long stickout will require a input gear.

Found in 1985-91 vehicles, this transfer case has a long female 32 spline input. The bolt pattern is a circular-six bearing than the 10 and 27 spline transfer cases. used with regards to the length of spline engagement. spacer adapter or a change out to the short version GM

GM NP205 (10 spline T/C) to GM 4WD NV4500 replacing a SM465:

This package is for a *GM 4WD NV4500* to the GM 10 spline NP205 (1971-85). This application requires the shortening of the NV output shaft to 4.498" in length. When using this kit, we couple to the 31 spline area which is under the harmonic balancer. In order to cut the shaft, you will need to remove the GM tailhousing. The NP205 has a 10 spline male shaft. We manufacture a female coupler that engages the 31 spline transmission to the 10 spline transfer case. We have included a new seal for the adapter housing along with a new sealed bearing for the transfer case for extra protection. This transfer case adapter kit uses two castings to couple the NV4500 to the NP205. These castings have been machined to allow for proper transfer case shift rail clearance. A shifter bracket has been provided to mount the stock NP205 shifter handle; however, you may be required to modify the handle to properly fit up into the cab of the truck.

The bellhousing in this kit bolts directly to the front of the NV4500. Depending on the type of clutch linkage your vehicle has, we offer two brackets to assist you. The kit comes with **Part No. 715534**, which is a bracket for the mechanical linkage. This bracket provides a pivot point on the bellhousing similar to the pivot found on a stock GM bellhousing. Some mechanical linkages use a pivot point off of the engine block which would remain the same. If your vehicle was equipped with a hydraulic linkage, we also offer a slave cylinder bracket that bolts to our bellhousing, **P/N 715535**. This bracket is designed to fit 1985-1991 GM slave cylinders (GM #15615868). You can substituted P/N 715534 with P/N 715535 when ordering this complete kit. The recommended clutch components for the bellhousing are found in the GM Full Conversion Bellhousing section of this manual.

The SM465 is 12" long with an adapter housing of 7.250". The transmission and transfer case adapter length is approximately 19-1/4". The overall length of the adapter kit is approximately 1" longer than the stock; therefore, driveline modifications may be necessary. The overall assembled length including the bellhousing is 26.250".

P/N 27-0030 - *GM 4WD NV4500 to GM 10 spline NP205 transmission assembly*
- **P/N 50-0217** - Transfer case adapter
- ***P/N 712576** - Bellhousing kit for GM NV4500 *(1996 & newer)*
- **P/N 715534** - Clutch linkage bracket
- **P/N 716050C** - Shifter handle assembly

***If you have a 1995 & earlier GM NV4500, this bellhousing kit can be substituted with **P/N 712577**.

GM NP205 (27 spline T/C) to GM 4WD NV4500 replacing a TH350:

This package is for a *GM 4WD NV4500* to the GM NP205 (1971-79), replacing the TH350 transmission. This application requires the shortening of the NV output shaft to 4.498" in length. When using this kit, we couple to the 31 spline area which is under the harmonic balancer. In order to cut the shaft, you will need to remove the tailhousing. The NP205 has a 27 spline male shaft. We manufacture a female coupler that engages the 31 spline transmission to the 27 spline transfer case. We have included a new seal for the adapter housing along with a new sealed bearing for the transfer case for extra protection. The transfer case adapter kit uses two castings to coupling the NV4500 to the NP205. These castings have been machined to allow for proper transfer case shift rail clearance. A shifter bracket has been provided to mount the stock NP205 shifter handle; however, you may be required to modify the handle to properly fit up into the cab of the truck.

The bellhousing in this kit bolts directly to the front of the NV4500. Since this vehicle was originally equipped with an automatic transmission, we've supplied a slave cylinder bracket for your clutch linkage **(P/N 715535)**. This bracket is designed to fit 1985-1991 GM slave cylinders (GM #15615868). A hydraulic clutch system is much easier to install than a mechanical linkage. If you decide to install a mechanical linkage, you can substitute for bracket **P/N 715534**. The recommended clutch components for the bellhousing are found in the GM Full Conversion Bellhousing section of this manual. The overall assembled length is 26.750".

P/N 27-0031 - *GM 4WD NV4500 to GM 27 spline NP205 transmission assembly*

***P/N 712576** - Bellhousing kit for GM NV4500 *(1996 & newer)*
P/N 50-0218 - Transfer case adapter
P/N 715529 - T/C linkage bracket *(supplied in 50-0218)*
P/N 715535 - Clutch linkage bracket
P/N 716050C - Shifter handle assembly

*****If you have a 1995 & earlier GM NV4500, this bellhousing kit can be substituted with **P/N 712577**.

GM NP205 (32 spline T/C figure-8 bolt pattern) to GM 4WD NV4500:

If you're attempting to build an unbreakable drivetrain, then the ultimate connection of a *GM 4WD NV4500* to a 1971-85 NP205 (replacing the SM465 or TH350) must be considered. The adapter was engineered for heavy-duty truck applications. This installation uses the largest spline size available (the factory 32 spline GM NV4500 output shaft), and offers the maximum strength of any of the NP205 conversions. The kit requires the purchase and installation of a new 32 spline input gear and bearing **(Part No. 716038)**. The new input bearing is approximately 1/4" larger in diameter than the stock bearing. Some machining on the transfer case is required in order to accept the larger bearing and new input gear.

This kit also is designed for the 1979 to 1985 1-ton truck with a TH400 transmission. This particular transfer case is already equipped with the proper input gear and bearing, so no machining is required.

The kit utilizes the stock 32 spline GM 4WD NV4500 output shaft. This shaft must be shortened to a stickout length of 7.625". With the output shaft shortened and the adapters installed, you will find the assembled length to be approximately 19-1/4". The new adapter uses a seal in the adapter housing and a sealed bearing in the transfer case, which is required to isolate the different fluids. The transfer case adapter kit uses two castings to couple the NV4500 to the NP205. These castings have been machined to allow for proper transfer case shift rail clearance. A shifter bracket has been provided to mount the stock NP205 shifter handle; however; you may be required to modify the handle to properly fit up into the cab of the truck.

The bellhousing in this kit bolts directly to the front of the NV4500. Since this kit was developed primarily for vehicles originally equipped with the TH400 automatic transmission, we've supplied a slave cylinder bracket for your clutch linkage **(P/N 715535)**. This bracket is designed to fit 1985-1991 GM slave cylinders (GM #15615868). A hydraulic clutch system is much easier to install than a mechanical linkage. If you decide to install a mechanical linkage, you can substitute for bracket **P/N 715534**. The recommended clutch components for the bellhousings listed above are found in the GM Full Conversion Bellhousing section of this manual.

On pre-1997 transmissions, you must remove the harmonic balancer and install a 2-piece set collar.

P/N 27-0032 - *GM 4WD NV4500 to GM 32 spline NP205 transfer case (Figure-8 bolt pattern)*
(Machining is required on the transfer case)

***P/N 712576** - Bellhousing kit for GM NV4500 *(1996 & newer)*
P/N 50-0206 - Transfer case adapter
P/N 715535 - GM hydraulic clutch linkage bracket
P/N 716050C - Shifter handle assembly

*****If you have a 1995 & earlier GM NV4500, this bellhousing kit can be substituted with **P/N 712577**.

GM NP205 1985-91 (32 spline T/C circular 6 bolt pattern) to GM 4WD NV4500:

This NP205 was originally coupled to a SM465 or TH400: Found in 1985-91 vehicles, this transfer case has a long input gear stickout of approximately 3.50", and a female 32 spline input. The bolt pattern is a circular-six configuration. Transfer cases with this long stickout will require a spacer adapter or a change out to the short version GM input gear when coupling to the GM NV4500.

The NV4500 has the correct bolt pattern and spline count as the NP205 transfer case. The problems that come into play are the spline engagement and the transfer case shift rail clearance. To couple the two units together, you have two options. First, we offer a spacer plate that is 1.625" long. This plate has a clearance notch for the NP205 transfer case shift rod along with the necessary length to compensate for the spline length difference. The second option is to change out the input gear on the NP205 transfer case to the shorter 1.5" long stickout length. If you decide on this option, the stock NV4500 tailhousing must also be modified to allow for clearance on the transfer case shift rails. We do not offer any transfer case shifter brackets designed specifically for the application; however, the bracket we produce for the earlier NP205 transfer cases will give you a good starting point to obtain the linkage pivot point. For the listed bellhousing components, refer to the following page.

P/N 51-6910 - Spacer adapter
P/N 716038 - NP205 input gear and bearing *(short stickout)*
P/N 715529 - Transfer case linkage bracket *(modifications are required)*

GM NP208/NP241 to GM 4WD NV4500:

The New Process 208 is a chain-driven transfer case. This is a cast aluminum transfer case. Compared to the NP203 and NP205, the lightweight cast aluminum housing of this transfer case is easier to handle. This transfer case is a good gear box with a low ratio of 2.61:1. The weakest part of this transfer case is that the shifter fork wears easily, causing shifting problems. This transfer case was used in production vehicles manufactured from GM, Dodge, and Ford. Identifying the GM version is done easiest by the round identification tag affixed to the case. This transfer case has a right hand drop configuration, synchronized shifted, and has a rear slip yoke. The GM NP208s have either a female 27 tooth input spline (originally coupled to a 700R transmission), or a female 32 spline input (originally coupled to a SM465 or TH400 transmissions).

The New Process 241 is also a chain-driven transfer case. This is a cast aluminum transfer case. This transfer case is a good gear box with a low ratio of 2.71:1. Since this is the newest design of the New Process transfer case models, the weak links of this transfer case are few and far between. GM uses this transfer case in both right hand and left hand drop configurations. Even with these two configurations, the adapters we manufacture work the same since the bolt pattern on this transfer case is symmetrical. This transfer case is used in production vehicles manufactured from GM, Dodge, and Ford. Identifying the GM version is done easiest by the round identification tag affixed to the case. This transfer case is normally a right hand drop on vehicles with a solid front axle, and a left hand drop on vehicles with I.F.S. The GM NP241s have either a female 27 tooth input spline (originally coupled to a 700R or 4L60E transmission), or a female 32 spline input (originally coupled to a SM465, TH400, or 4L80E transmission).

Both of these transfer cases bolt directly to the stock GM 4WD tailhousing adapter. An area od concern with these transfercases is the crossmember used by GM. Vehicles 1981-1984 used a crossmember with a drop; the stock adapter having a long foot to couple to this crossmember support. The 1985 & newer vehicles came with a crossmember that was tucked up tightly to the frame rails, thus requiring a short foot on the adapter housing. The stock NV4500 housing has a mounting foot that is similar to that of the later model crossmembers.

The bellhousings to fit the NV4500 to the GM blocks are listed at the end of this section. Caution should be used when using one of our full bellhousings due to the close front driveshaft clearance on the I.F.S. axles. Our bellhousings can be modified to fit; however, the stock GM bellhousing we offer will provide a cleaner installation.

700R/4L60E to NP208/241 (short foot)

SM465 to NP208/241 (short foot)

700R/4L60E to NP208/241

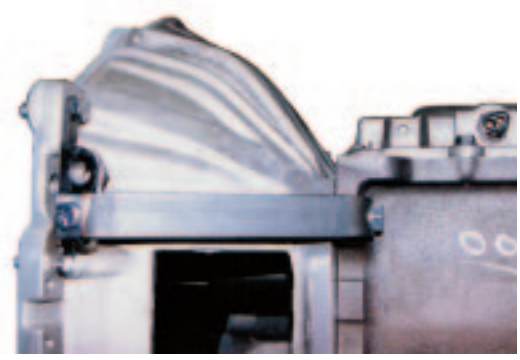
SM465 to NP208/241 (long foot)

GM BELLHOUSINGS
CLUTCH LINKAGE & TRANSFER CASE BRACKETS:

P/N 712577 - Chevy NV4500 A.A. bellhousing (1993 to 95 transmissions) conversion bellhousing
P/N 712576 - Chevy NV4500 A.A. bellhousing (1996 & up transmissions) conversion bellhousing
P/N 712580 - Chevy NV4500 GM bellhousing (1993 to 95 transmissions) stock bellhousing
P/N 712586 - Chevy NV4500 GM bellhousing (1996 & up transmissions) stock bellhousing (internal slave cylinder)

The recommended clutch components for the bellhousings listed above are found in the GM Full Conversion Bellhousing section of this manual.

P/N 715534 - Stock linkage bracket (mechanical)
P/N 715535 - Stock linkage bracket (hydraulic)
P/N 716332 - Bellhousing boot for (P/N 712576 & 712577)
P/N 715529 - NV4500 to NP205 T/C shifter bracket



(1971-85) GM 2WD NV4500:

We also offer a list of parts required for the GM 2WD trucks. These parts are designed to be used with a *DODGE 2WD NV4500*. We do not carry this model transmission, but a it can be special ordered though us. The 1998 and newer transmissions do not offer any type of speedometer provisions. When obtaining your transmission, we recommend that a 1997 & earlier transmission be obtained. *NOTE:* The handle assembly in this kit fits the 1998 & earlier transmission handle configuration. If you have decided to use a later model transmission without a speedometer drive, then you will need to substitute **P/N 716050D** with **P/N 716050D1**.

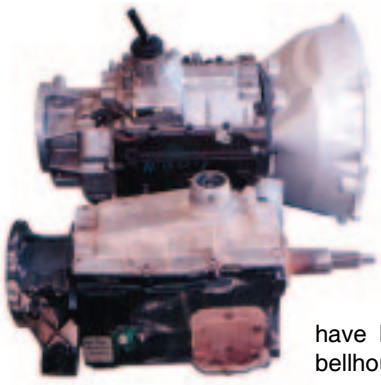
DODGE 2WD NV4500 to GM 2WD 1971-85 transmission retrofit

The bellhousing adapter plate in this kit retains the stock bellhousing. *This kit requires the use of a stock GM bellhousing with a 5.125" index diameter.* The stock clutch disc must be a 1-1/8" 10 spline to fit the NV4500 transmission. The necessary clutch components for this conversion can be found in the GM Adapter Plate section of this manual. We have included a new rubber crossmember support to fit the stock tailhousing. The stock crossmember will require some modifications to bolt to our rubber crossmember support.

P/N 712550 - Adapter plate kit
P/N 716101-2 - Rubber mount for crossmember
P/N 716050D - Shifter handle assembly

ADAPTER PACKAGES & INDIVIDUAL COMPONENTS FOR CUMMINS DIESEL DODGE TRUCKS

(REPLACING THE GETRAG 5 SPEED)



Between the years of 1989 to 1992, Dodge used a German made Getrag 5 speed transmission coupled to the Cummins diesel engine. These transmissions were used in both 2WD and 4WD vehicles. The availability of re-manufactured transmissions and replacement parts have been extremely difficult to locate. We have developed a bellhousing that will permit the use of the newer Heavy-Duty NV4500 transmission.

Many customers are aware that the NV4500 is currently coupled to the Cummins diesel. The logical reasoning might be to simply use a stock NV bellhousing from Chrysler. Although this may be true, as was our initial thought, these original Chrysler components for the NV4500 transmission proved to be extremely expensive. Not only would you need a new bellhousing, but you will also require new clutch components, a slave cylinder, and considerable labor.

The bellhousing we manufacture bolts to the Cummins 5.9 diesel and utilizes the stock slave cylinder, clutch arm, and release bearing. This bellhousing comes with a new pilot bushing for both the 2WD and 4WD applications. The 4WD kits also include a crossmember mount and transfer case shifter bracket.

TRANSMISSION MODIFICATIONS for 2WD and 4WD VEHICLES:

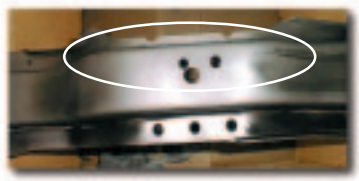
Prior to assembly, modification will be required to the front portion of the NV4500 transmission. The bearing retainer must be removed from the front of the 5 speed and shortened to a length that is 4.297" long. This can be done by using a cut off wheel or engine lathe. By shortening the bearing retainer, this will prevent any interference with the hub on the clutch disc. The bellhousing should be test fitted up to the back of the Cummins block to check flywheel and clutch assembly clearance on the inside of the our bellhousing.

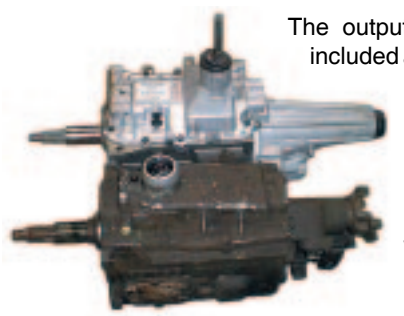
Floorboard modifications for the shifter lever will be required. Since there is a 4-1/2” difference in length between the Getrag and the NV4500, the hole in your floorboard will need to be located back roughly 4-1/2" for the handle location.

2WD DODGE APPLICATIONS:

We offer a complete adapter package for this transmission swap. *The components in the packages that we do offer can also be purchased separately.* This package is only compatible with the *Dodge Heavy-Duty 2WD NV4500* transmission. This transmission can be special ordered from us. *NOTE:* The 1998 & newer transmissions do not offer any type of speedometer provisions. When obtaining your transmission, we recommend that a 1997 & earlier transmission be obtained. The handle assembly in this kit fits the 1998 & earlier transmission handle configuration. If you have decided to use a later model transmission without a speedometer drive, then you will need to substitute **P/N 716050D** with **P/N 716050D1**.

The speedometer components of the Getrag transmission will directly interchange into the new Dodge Heavy Duty 2WD transmission. On most speedometer housings, you’ll find an “L” fitting which reversed the speedometer cable coming out of the Getrag transmission. When installing the speedometer housing onto the NV4500 transmission, you will need to remove this fitting to obtain the proper speedometer rotation.





The output shaft on this transmission has 31 splines. We have included a new output shaft yoke in this kit, **P/N 716087** (Spicer # 3-28-4391X). Driveline modifications will be required (shorten approximately 6 inches). Floorboard modifications are required, since the NV4500 shift handle location sets further back than the Getrag.

Since the crossmember mounting location on the Getrag is different then on the NV4500, your stock crossmember will need to be modified. The front side of the stock Getrag crossmember will need to be modified to clear the NV4500 tailhousing *(photo above)*. By modifying the stock

crossmember and using a stock Chevy Turbo 350/400 automatic rubber support, you can retain your crossmember in the stock location. The Chevy mount sets into the Dodge crossmember channel. You will also need to drill two holes in the Dodge crossmember for the bolts to fit the Chevy rubber mount.

P/N 27-0056 - Dodge Heavy-Duty NV4500 2WD tranny assembly
P/N 712585 - Bellhousing kit
P/N 716087 - 2WD output yoke
P/N 716050D - Shifter handle assembly

4WD DODGE APPLICATIONS:

We also offer a complete adapter package for the 4WD applications. *The components in the packages that we do offer can also be purchased separately.* We currently offer rebuilt NV4500 transmissions. This package is only compatible with the *Dodge Heavy Duty 4WD NV4500* transmission. This transmission can be ordered from us under **P/N 26-0020R**. If you wish to obtain your own transmission, please refer to the Dodge identification charts for both current and past OEM part numbers.

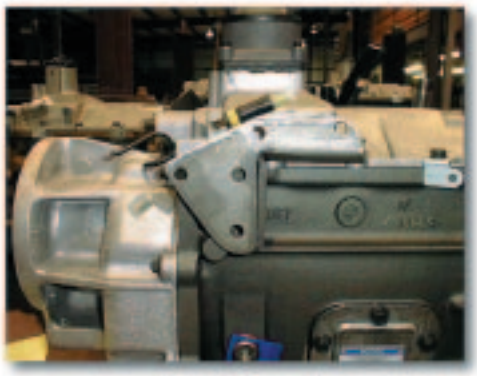
NOTE: On 1999 & newer Dodge transmissions, the handle assembly was changed. Our kit packages are designed for the newest transmission shifter configuration. If you have obtained a 1998 or earlier transmission, you will need to substitute **P/N 716050D1** with **P/N 716050D**.

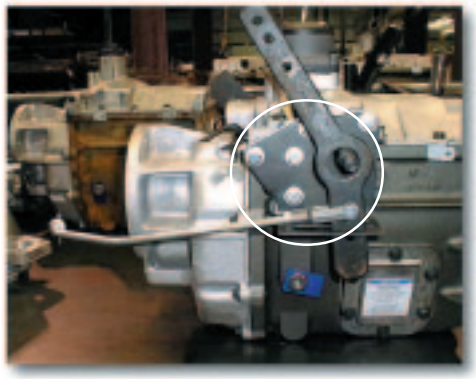
This transmission is a direct replacement for the Getrag 5 speed. The stock Dodge NV4500 transfer case adapter housing bolts directly to the stock Dodge transfer case. The original Getrag transmission used a seal on the backside of the main transmission case and a seal on the front side of the transfer case. When using the NV4500, the seal on the transmission side will be eliminated. The only seal separating the two gear boxes is the original seal located on the front side of the transfer case. The original front transfer case seal should provide ample protection from any contamination. The stock Dodge NV4500 adapter seal, however, will need to be removed. We have had numerous customers with the NP205 transfer case use the recommended NV4500 transmission fluid in both the transmission and transfer case in order to avoid any contamination between the two units. We do not feel that it is necessary to use one common fluid for both gear boxes. We suggest monitoring the quality and levels of the fluids in both boxes in order to prevent any problems.

The bellhousing we manufacture bolts to the Cummins 5.9 diesel and utilizes the stock slave cylinder, clutch arm, and release bearing. This bellhousing comes with a new pilot bushing that must be installed. A crossmember mount and transfer case shifter bracket is included as part of the bellhousing kit. You will have minor floorboard modifications for the new shifter handle location.

P/N 27-0055 - Dodge Heavy Duty NV4500 4WD tranny assembly
P/N 712584 - Bellhousing kit
P/N 716050D1 - Shifter handle assembly

NOTE: On some of the 1991 to 1993 Getrag transmissions, Dodge used a gated transfer case shifter. We have included the shifter linkage bracket that is most common. If you have a 1992-94 vehicle with a gated-type shifter, you may need to substitute **P/N 715536** with **P/N 715540**. P/N 715536 is part of bellhousing kit P/N 712584.





Gated-type shifter

INDIVIDUAL COMPONENTS for TOYOTA TRUCKS

Whether you're keeping the stock Toyota 4 cylinder or upgrading to a Chevy or Ford engine, we can assist you with the adapters necessary to perform a NV4500 transmission swap. We offer several adapter components for Toyota 4WD trucks.

We currently offer rebuilt NV4500 transmissions. The GM 4WD NV4500 can be purchased under **P/N 26-0007R**. If you wish to obtain your own transmission, please refer to the GM identification charts for both current and past OEM part numbers.

The installation of a NV4500 into a Toyota truck has been very well accepted. The adapters we manufacture are for the *GM 4WD NV4500*. Adapters are available for both the 21 & 23 spline gear-driven transfer cases. *Adapters are NOT available for the chain-driven transfer cases.*

The installation of our transfer case adapters requires the removal of the stock GM adapter housing. Once the adapter housing is removed, you will either have a large harmonic balancer or a steel sleeve that must also be removed from the transmission. The harmonic balancer or steel sleeve covers the 31 spline portion of the transmission output shaft to which we couple. The GM output shaft of the NV4500 must be shortened to a length of 4.498"

When installing this transmission into your Toyota truck, you should plan on a minimum 2" body lift to allow for tunnel clearance. Most of these applications will require driveshaft modifications.

TOYOTA TRUCK CHEVY V6 & V8:

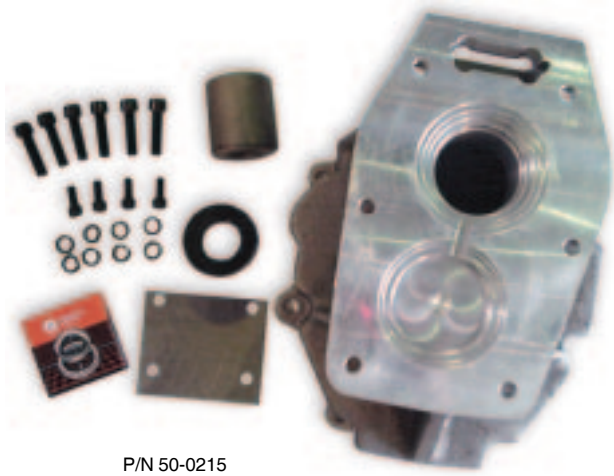
We have listed the components designed to couple a GM engine and a Toyota 21 spline transfer case. These parts are designed to work with a *GM 4WD NV4500*. The parts listed below includes a conversion bellhousing that bolts the transmission to the Chevy engine, a new slave cylinder, slave cylinder bracket, and hose to retain the hydraulic linkage. The recommended clutch components for the bellhousing in this package are found in the GM Full Conversion Bellhousing section of this manual. The overall length of a NV4500 transmission assembly is approximately 1" longer than the original Toyota 5 speed (1984-95).

The transfer case adapter supplied in this kit is for the 21 spline Toyota transfer case. If you are going to use a 23 spline transfer case, you can substitute the transfer case adapter for **P/N 50-0216**. When doing this conversion, you should anticipate driveline modifications along with crossmember support repositioning. The shifter handle location on the NV4500 is 10.375" from the front of the transfer case, which will require some floorboard modifications. The overall assembly length is 26.000".

GM 4WD NV4500 to Toyota (1979-95) with a Chevy V6/V8

P/N 50-0215 - Transfer case adapter *(21 spline)*
***P/N 712576** - Bellhousing kit
P/N 716119S - Toyota Land Cruiser slave cylinder (w/ stock push rod)
P/N 716119H - Land Cruiser slave cylinder hose
P/N 716288 - Land Cruiser slave cylinder bracket
P/N 716050C - Shifter handle assembly

***If you have a 1995 & earlier GM NV4500, this bellhousing kit can be substituted with **P/N 712577**.



P/N 50-0215

TOYOTA TRUCK FORD V8:

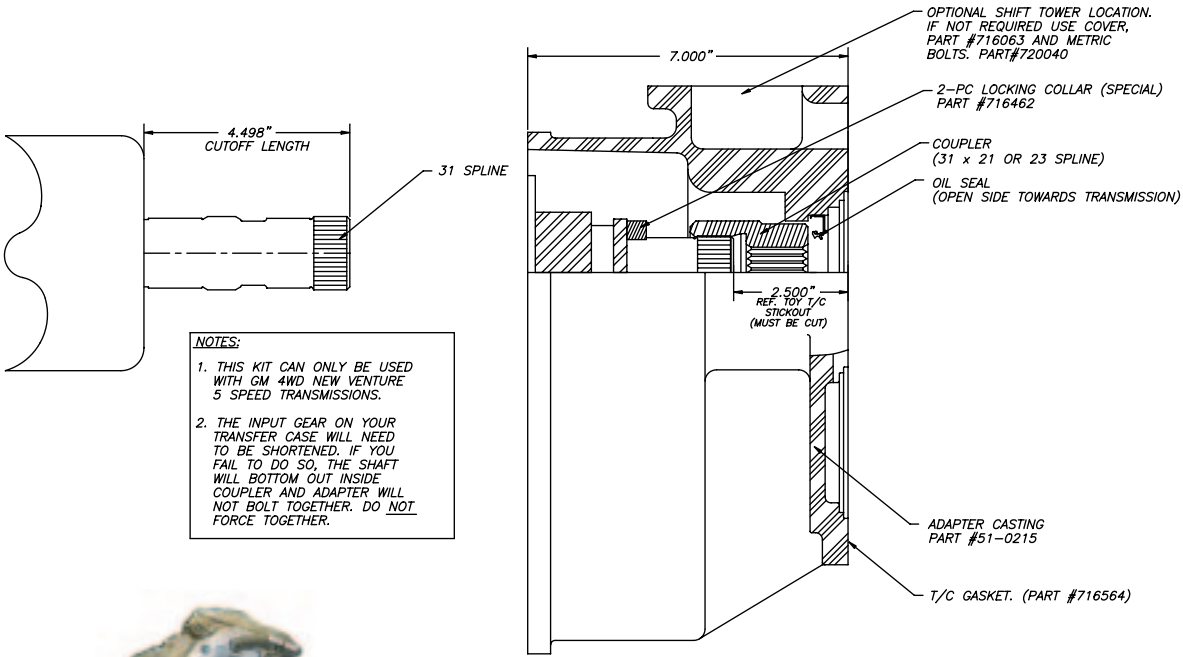
We have listed the components designed to couple a Ford engine and a Toyota 21 spline transfer case. These parts are designed to work with a *GM 4WD NV4500. This kit requires the use of a stock Ford bellhousing with a 4.848" index diameter.* We have listed the adapter plate that bolts the NV4500 transmission to the Ford bellhousing. A new, longer input shaft is also required to compensate for the adapter plate thickness. We do not offer any bracketry to retain the stock slave cylinder, we recommend that you use a stock Ford bellhousing equipped for a hydraulic linkage. When using a Ford V8, you must secure a Ford bellhousing that will also be compatible with the Toyota hydraulic clutch control. In 1985, Ford used a F150 bellhousing that had a hydraulic slave cylinder mounted on the driver's side of the bellhousing. The stock Toyota master cylinder may be need to be replaced to work with the Ford slave cylinder. A new clutch disc that has the 1-1/8" 10 spline will be required to fit the new Dodge input shaft. The recommended clutch components for the adapter plate are found in the Ford Adapter Plate section of this manual. The engine conversion components should be sourced out of our Toyota Truck Instruction Manual.

The transfer case adapter supplied in this kit is for the 21 spline Toyota transfer case. If you are going to use a 23 spline transfer case, you can substitute the transfer case adapter for **P/N 50-0216**. When doing this conversion, you should anticipate driveline modifications along with crossmember support repositioning. The shifter handle location on the NV4500 is 10.375" from the front of the transfer case, which will require some floorboard modifications. The overall assembly length is 26.750.

GM 4WD NV4500 to Toyota (1979-95) with a Ford V8 Adapter plate design

P/N 50-0215 - Transfer case adapter *(21 spline)*
P/N 52-0219 - Dodge NV4500 input shaft required w/ 712551 kit
***P/N 712551** - Adapter plate kit
P/N 716068 - Dodge bearing retainer required w/ 712551 kit
P/N 716050C - Shifter handle assembly

***If you have a 1995 GM NV4500, this adapter plate kit can be substituted with **P/N 712552**.
We do not offer any adapters to use the early GM NV4500 4WD (w/ the 6.34-to-1 gear ratio) to a Ford engine.


4.498"
CUTOFF LENGTH
31 SPLINE
NOTES:
1. THIS KIT CAN ONLY BE USED WITH GM 4WD NEW VENTURE 5 SPEED TRANSMISSIONS.
2. THE INPUT GEAR ON YOUR TRANSFER CASE WILL NEED TO BE SHORTENED. IF YOU FAIL TO DO SO, THE SHAFT WILL BOTTOM OUT INSIDE COUPLER AND ADAPTER WILL NOT BOLT TOGETHER. DO NOT FORCE TOGETHER.
7.000"
OPTIONAL SHIFT TOWER LOCATION. IF NOT REQUIRED USE COVER, PART #716063 AND METRIC BOLTS. PART#7200040
2-PC LOCKING COLLAR (SPECIAL) PART #716462
COUPLER (31 x 21 OR 23 SPLINE)
OIL SEAL (OPEN SIDE TOWARDS TRANSMISSION)
2.500" REF. TOY T/C STICKOUT (MUST BE CUT)
ADAPTER CASTING PART #51-0215
T/C GASKET. (PART #716564)

TOYOTA TRUCK 4 CYLINDER:

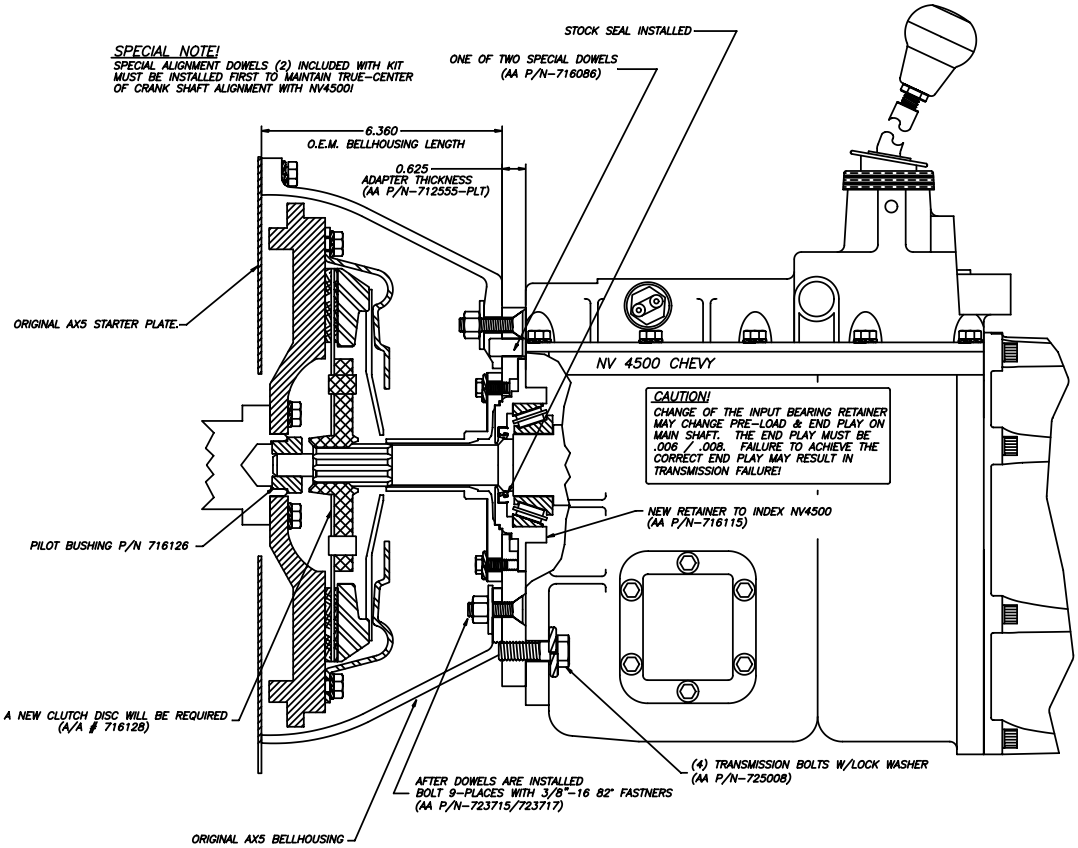
If you wish to retain your 4 cylinder, we have listed the components designed to couple the NV4500 the the stock 4 cylinder. These parts are designed to work with a *1996 & Newer GM 4WD NV4500* transmission. This adapter plate works in conjunction with your stock 4 cylinder bellhousing and clutch linkage. *This kit requires the use of a stock Toyota 4 cylinder bellhousing (tranny codes G52, G54 W56 & G58).* Vehicles 1979-83, have an integral (one piece) bellhousing and require the use of a late model bellhousing and slave cylinder.

The bellhousing adapter kit comes with a new 1-1/8" clutch disc for the stock Toyota bellhousing. The transfer case adapter supplied in this kit is for the 21 spline Toyota transfer case. If you are going to use a 23 spline transfer case, you can substitute the transfer case adapter for **P/N 50-0216**. When doing this conversion, you should anticipate driveline modifications along with crossmember support repositioning. The shifter handle location on the NV4500 is 10.375" from the front of the transfer case, which will require some floorboard modifications. The overall assembly length is 26.360".

GM 4WD NV4500 to Toyota 4 cyl. (1979-95)

P/N 712556 - Adapter plate kit
P/N 50-0215 - Transfer case adapter *(21 spline)*
P/N 716050C - Shifter handle assembly

Regarding **P/N 712556** adapter kit to Toyota 4WD truck (G52, G54, W56 & G58) bellhousing:
In order to adapt a 1996 & up GM 4WD NV4500 to the stock 4 cylinder engine, an adapter plate is necessary. Our adapter plate works in conjunction with your stock 4 cylinder bellhousing and clutch linkage. A new clutch disc is included in this kit. The kit does require you to remove and modify the front bearing retainer. The stock Toyota front retainer must be retained and mounted to the adapter plate in this kit.


SPECIAL NOTE!
SPECIAL ALIGNMENT DOWELS (2) INCLUDED WITH KIT MUST BE INSTALLED FIRST TO MAINTAIN TRUE-CENTER OF CRANK SHAFT ALIGNMENT WITH NV4500!
ONE OF TWO SPECIAL DOWELS (AA P/N-716086)
STOCK SEAL INSTALLED
6.360 O.E.M. BELLHOUSING LENGTH
0.625 ADAPTER THICKNESS (AA P/N-712555-PLT)
ORIGINAL AX5 STARTER PLATE
NV 4500 CHEVY
CAUTION!
CHANGE OF THE INPUT BEARING RETAINER MAY CHANGE PRE-LOAD & END PLAY ON MAIN SHAFT. THE END PLAY MUST BE .008 / .008. FAILURE TO ACHIEVE THE CORRECT END PLAY MAY RESULT IN TRANSMISSION FAILURE!
NEW RETAINER TO INDEX NV4500 (AA P/N-716115)
PILOT BUSHING P/N 716126
A NEW CLUTCH DISC WILL BE REQUIRED (A/A # 716128)
(4) TRANSMISSION BOLTS W/LOCK WASHER (AA P/N-725008)
AFTER DOWELS ARE INSTALLED BOLT 9-PLACES WITH 3/8"-16 82° FASTNERS (AA P/N-723715/723717)
ORIGINAL AX5 BELLHOUSING

FULL GM CONVERSION BELLHOUSINGS

With the introduction of the NV4500 in 1993, both GM & Dodge found it necessary to change the transmission bellhousing bolt pattern because of the overall size of the transmission. The bolt pattern on these transmissions has been spread out and enlarged in order to meet the transmission general configuration. When using these transmissions with engines other than a Chevy or Dodge engine, or when retrofitting a vehicle prior to 1992, you will require a new bellhousing or adapter plate. We offer bellhousing conversion kits that will help you assemble the NV4500 to all GM engines and Ford V8 engines.

There are a few basic guidelines to consider when deciding which bellhousing you'll need.

For GM transmissions:

1. Year of transmission - 1995 & earlier or 1996 & later
2. Hydraulic or Mechanical clutch linkage

For Dodge transmissions:

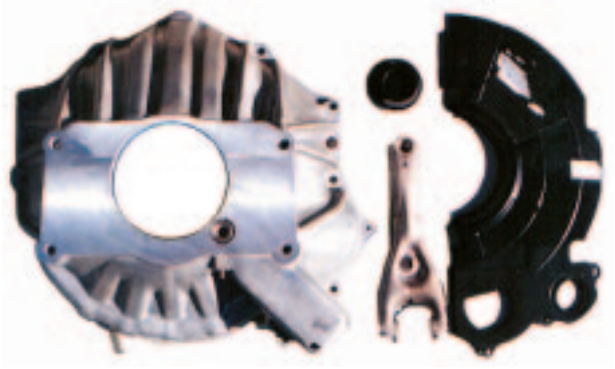
1. Hydraulic or Mechanical clutch linkage
2. Do you need a full bellhousing or can you use an adapter plate?
3. If a full bellhousing is needed, a GM input shaft will be required and the transmission will require the endplay to be reset.

For the transmission bolt patterns, refer back to the Transmission Identification section of this manual.

FULL GM BELLHOUSING CHOICES:

The bellhousing bolt pattern on the GM NV4500 transmission differs from the bolt pattern from the standard GM transmissions (old Muncie truck-type transmissions). From 1992-95, GM NV4500s had their own specific bolt pattern. In 1996, GM started using the same case design as the Dodge NV4500 case. In addition to having the same bolt pattern, GM NV4500s now have an index diameter of 5.600". The GM NV4500s, however, use an internal hydraulic release bearing. When GM switched to this bearing assembly, they removed the snout from the retainer where a release bearing would ride. This assembly has no provisions for a conventional throw out bearing and release arm.

With the different transmission configurations, you must make sure that the correct bellhousing and adapters are ordered. You will have four possible choices as to which bellhousing will be used with your Chevy V8 engine. (*NOTE:* These bellhousings should not be used with a diesel motor due to starter clearance issues). The choices are as follows:



Choice #1 - Stock GM Bellhousing used in 1993-1995 GM trucks previously couple to a GM NV4500

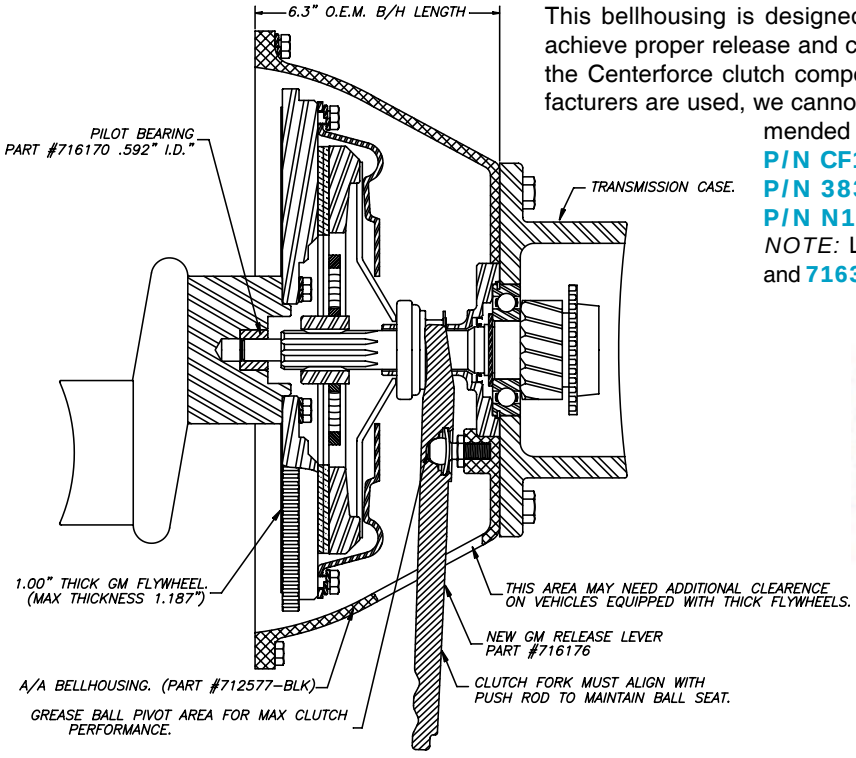
This bellhousing uses a special slave cylinder configuration that is located on the passenger side of the vehicle. Vehicles that have the front driveshaft on the passengers side will not have sufficient clearance around the stock slave cylinder assembly, this bellhousing will not be compatible on Jeep vehicles 1971-86, Toyota Land Cruisers, or GM 4WD vehicles up to 1991. This factory GM bellhousing can be ordered from us under **P/N 712580** (shown left), and will include all of the necessary slave cylinder components. The recommended clutch disc and pressure plate are Centerforce components, **P/N 383735** (clutch disc) and **P/N CF361877** (pressure plate).

Choice #2 - Stock GM Bellhousing used in 1996 & Newer GM trucks previously couple to a GM NV4500

This bellhousing uses a special internal design slave cylinder that bolts to the front retainer on the transmission. This factory GM bellhousing can be ordered from us under **P/N 712586** (shown right), and will include all of the necessary slave cylinder components. The use of the stock GM clutch disc and pressure plate are recommended for this bellhousing.

Choice #3 - AA Bellhousing - P/N 712577

For GM NV4500 transmissions 1992-95, we manufacture a new aluminum bellhousing with the proper bolt pattern and index diameter of 5.125". This bellhousing can be used with all Chevy 4.3 V6 and V8 engine conversions. The bellhousing is adaptable to both mechanical and hydraulic clutch controls and is furnished with a new clutch release arm and boot. The boot may need to be modified to provide the correct arm location. The bellhousing has the clutch release arm access on the driver's side of the vehicle. The advantage of this bellhousing over P/N 712580 (option #1) is that our bellhousing has provisions for most stock linkages (hydraulic or mechanical). The adaptability of these different linkages to our bellhousing makes the NV4500 to your Chevy block an easy adaptation.


6.3" O.E.M. B/H LENGTH
PILOT BEARING
PART #716170 .592" I.D."
TRANSMISSION CASE.
1.00" THICK GM FLYWHEEL.
(MAX THICKNESS 1.187")
THIS AREA MAY NEED ADDITIONAL CLEARENCE
ON VEHICLES EQUIPPED WITH THICK FLYWHEELS.
NEW GM RELEASE LEVER
PART #716176
A/A BELLHOUSING. (PART #712577-BLK)
CLUTCH FORK MUST ALIGN WITH
PUSH ROD TO MAINTAIN BALL SEAT.
GREASE BALL PIVOT AREA FOR MAX CLUTCH
PERFORMANCE.

This bellhousing is designed for an 11" flywheel and clutch assembly. To achieve proper release and clearances, our bellhousing was designed around the Centerforce clutch components. If clutch components from other manufacturers are used, we cannot guarantee proper clutch operation. The recommended clutch components are as follows:

P/N CF165552 - 11" pressure plate
P/N 383735 - 11" clutch disc
P/N N1430 - Release bearing

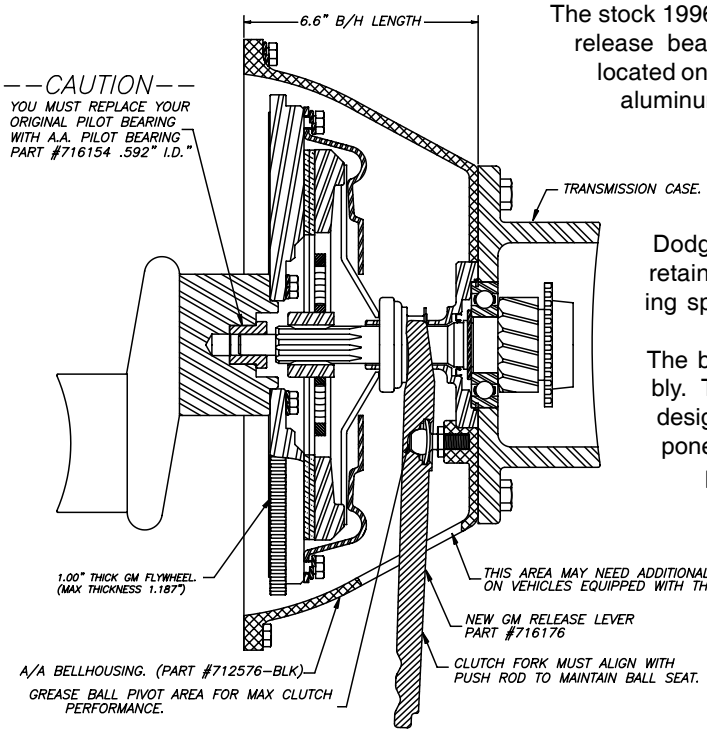
NOTE: Land Cruisers should use **CF165473S** pressure plate, and **716316** release bearing.

1992 and newer GM trucks equipped with the I.F.S. front axle should not use this bellhousing due to front driveshaft clearance issues.

Modified retainer indexing over the stock GM aluminum bearing retainer

Choice #4 - AA Bellhousing - P/N 712576

For GM NV4500 (1996 & newer) and all Dodge NV4500 transmissions, we manufacture a new aluminum bellhousing with the proper bolt pattern and 5.600" index diameter. This bellhousing can be used with all Chevy 4.3 V6 and V8 engine conversions. The bellhousing is adaptable to both mechanical and hydraulic clutch controls and is furnished with a new clutch release arm and boot. (The boot may need to be modified to provide the correct arm location). The bellhousing also comes with a bearing retainer snout that bolts to the front of the GM transmission. If you are using a Dodge transmission, you will be required to change the transmission front input shaft and machine the front bearing retainer for the release bearing. The bellhousing has the clutch access on the driver's side of the vehicle. For customers that have a Dodge NV4500 transmission and wish to use this bellhousing, a new GM input shaft will need to purchase and installed **(P/N 52-0221)**.



The stock 1996 & newer GM NV4500 transmission uses an internal hydraulic release bearing. This bearing mounts to an aluminum index retainer located on the front of the transmission. Our bellhousing retains the stock aluminum bearing retainer. We then use a modified retainer that bolts to the stock aluminum retainer to provide a collar for the new clutch release bearing (shown above).

If this bellhousing was purchased with the intent to use a Dodge transmission with a new input shaft, your stock Dodge retainer must be modified to accept a GM release bearing (machining specifications provided on the instruction sheet).

The bellhousing is designed for an 11" flywheel and clutch assembly. To achieve proper release and clearances, our bellhousing was designed around the Centerforce clutch components. If clutch components from other manufacturers are used, we cannot guarantee proper clutch operation. The recommended clutch components are as follows:

P/N CF165552 - 11" pressure plate
P/N 383735 - 11" clutch disc
P/N N1430 - Release bearing

NOTE: Land Cruisers should use **CF165473S** pressure plate, and **716316** release bearing.

1992 and newer GM trucks equipped with the I.F.S. front axle should not use this bellhousing due to front driveshaft clearance.

BELLHOUSING ADAPTER PLATES

The adapter plates we manufacture are used primarily for the *Dodge Standard Duty NV4500* transmission. This Dodge version has an input shaft that protrudes from the front of the transmission approximately 7-1/2". Because of the length of this input shaft, we are able to couple this transmission to both a stock GM and Ford bellhousing by means of a 7/8" adapter plate.

GM ADAPTER PLATES:

P/N 712550 - *Dodge Standard Duty NV4500 to GM 5.125" Dia. bellhousing*
This adapter plate will permit the installation of this Dodge NV4500 directly to a GM bellhousing. The adapter plate provides a mounting surface identical to a Chevy transmission. This kit is designed to compensate for the 1" longer Dodge input shaft. The adapter plate is not compatible with the Heavy-Duty NV4500. This kit includes the adapter plate, pilot bushing, and necessary hardware.

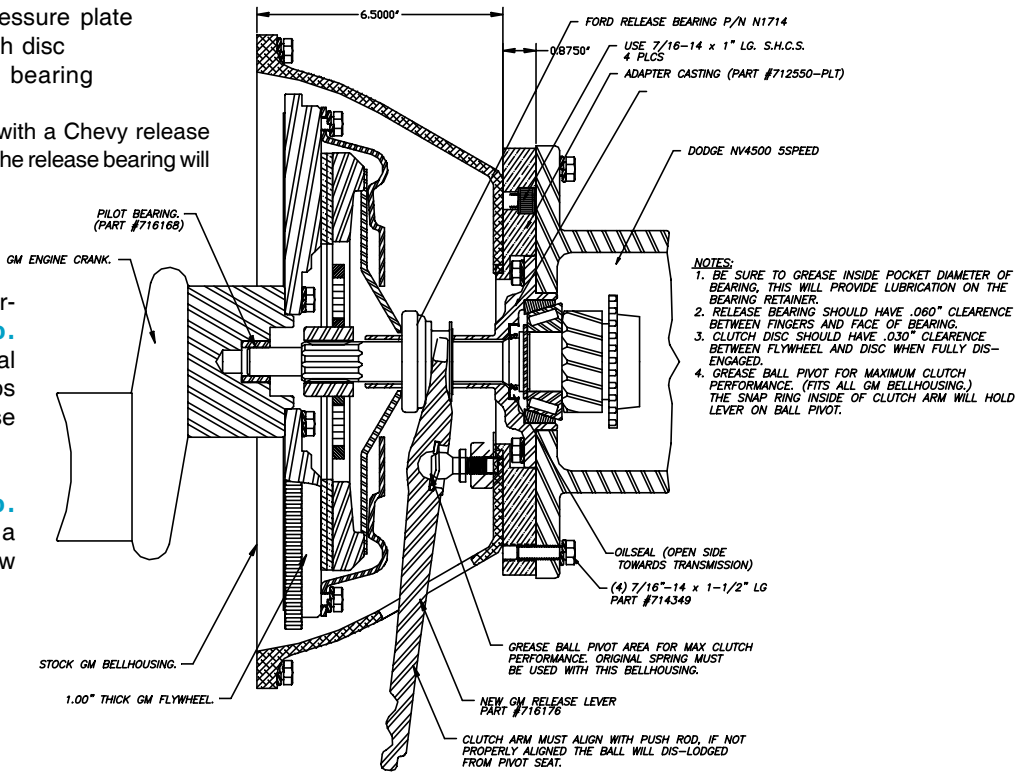
Most Chevy bellhousings with the 5.125" index are designed for an 11" flywheel and clutch assembly. We recommend the use of Centerforce clutch components. The recommended clutch components are as follows:

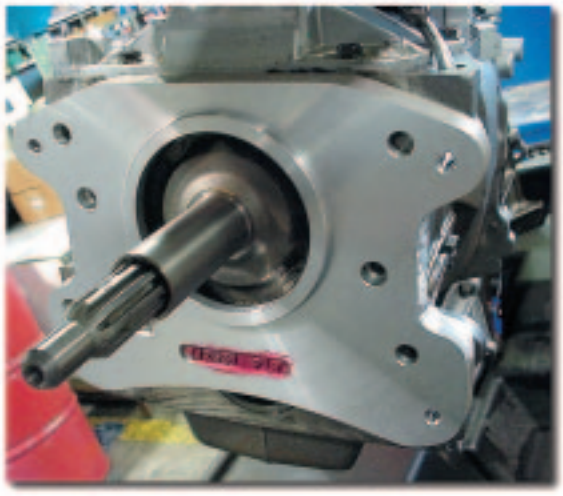
P/N CF165552 - 11" pressure plate
P/N 383735 - 11" clutch disc
***P/N N1714** - Release bearing

***When using this release bearing with a Chevy release arm, the lugs that slip into the back of the release bearing will require a slight modification.

On Jeep applications using this adapter plate, you may need to purchase clutch bracket **Part No. 716638** to aid with a mechanical clutch linkage connection. Jeeps with hydraulic linkages should use the full bellhousings

A full bellhousing **(Part No. 712576)** can be used with a Dodge NV4500 by installing a new input shaft **(P/N 52-0221)**.


6.5000"
.8750"
FORD RELEASE BEARING P/N N1714
USE 7/16-14 x 1" LG. S.H.C.S. 4 PLCS
ADAPTER CASTING (PART #712550-PLT)
DODGE NV4500 5SPEED
PILOT BEARING. (PART #716168)
GM ENGINE CRANK.
NOTES:
1. BE SURE TO GREASE INSIDE POCKET DIAMETER OF BEARING, THIS WILL PROVIDE LUBRICATION ON THE BEARING RETAINER.
2. RELEASE BEARING SHOULD HAVE .060" CLEARENCE BETWEEN FINGERS AND FACE OF BEARING.
3. CLUTCH DISC SHOULD HAVE .030" CLEARENCE BETWEEN FLYWHEEL AND DISC WHEN FULLY DIS-ENGAGED.
4. GREASE BALL PIVOT FOR MAXIMUM CLUTCH PERFORMANCE. (FITS ALL GM BELLHOUSING.) THE SNAP RING INSIDE OF CLUTCH ARM WILL HOLD LEVER ON BALL PIVOT.
OILSEAL (OPEN SIDE TOWARDS TRANSMISSION)
(4) 7/16"-14 x 1-1/2" LG PART #714349
GREASE BALL PIVOT AREA FOR MAX CLUTCH PERFORMANCE. ORIGINAL SPRING MUST BE USED WITH THIS BELLHOUSING.
STOCK GM BELLHOUSING.
1.00" THICK GM FLYWHEEL.
NEW GM RELEASE LEVER PART #716176
CLUTCH ARM MUST ALIGN WITH PUSH ROD, IF NOT PROPERLY ALIGNED THE BALL WILL DIS-LODGED FROM PIVOT SEAT.



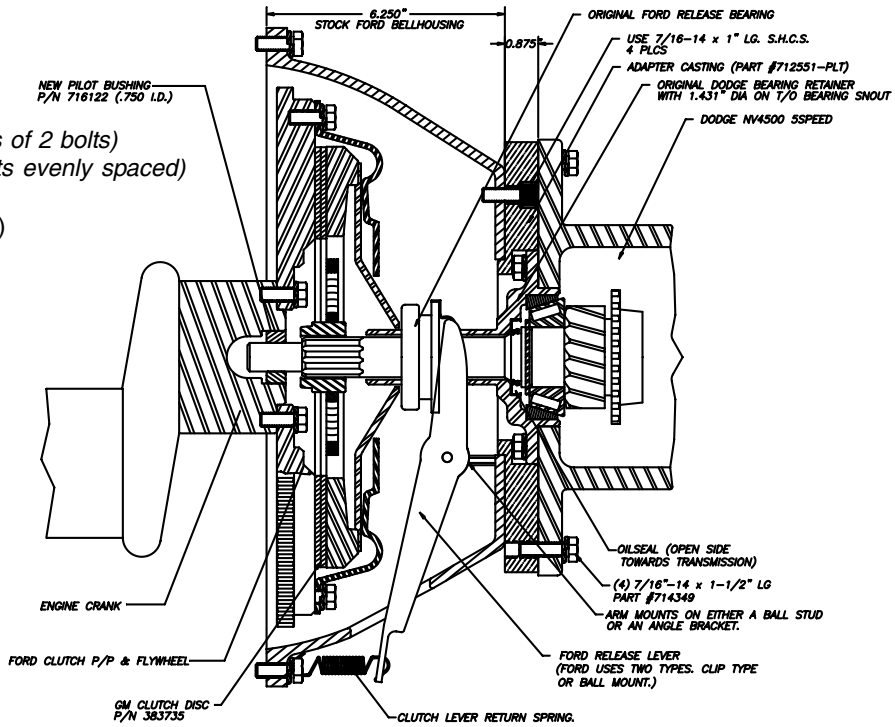
FORD ADAPTER PLATES:

P/N 712551 - Dodge Standard Duty NV4500 to Ford 4.848" Dia. bellhousing

This adapter plate is designed to fit a Dodge NV4500 directly to a standard Ford bellhousing. *We recommend the use of a 1985 to 1988 F150 bellhousing to work with this adapter plate.* The adapter plate provides a mounting surface identical to a Ford transmission. This kit is designed around the Dodge Standard Duty 4WD version and will compensate for the 1" longer Dodge input shaft. The adapter plate is not compatible with the Heavy-Duty Dodge NV4500 or early model 1993-1995 GM NV4500s. The kit is furnished with a new pilot bushing and necessary hardware. The clutch disc will need to be changed in order to be compatible with the new transmission.

Most Ford bellhousings use a 4.848" index. The clutch components listed below fit the 1985-1988 F150 bellhousing. The clutch diameter for this bellhousing is 11". We recommend the use of Centerforce clutch components. The recommended clutch components are as follows:

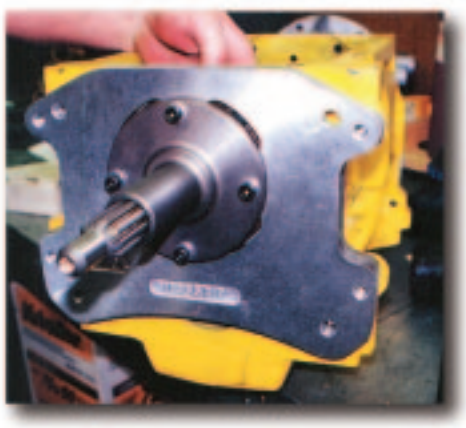
P/N CF260000 - 11" pressure plate *(3 sets of 2 bolts)*
P/N CF360049 - 11" pressure plate *(6 bolts evenly spaced)*
P/N 383735 - 11" clutch disc
P/N 716311 - Release bearing (N1439)


6.250" STOCK FORD BELLHOUSING
0.875"
ORIGINAL FORD RELEASE BEARING
USE 7/16-14 x 1" LG. S.H.C.S. 4 PLCS
ADAPTER CASTING (PART #712551-PLT)
ORIGINAL DODGE BEARING RETAINER WITH 1.431" DIA ON T/O BEARING SNOUT
DODGE NV4500 5SPEED
NEW PILOT BUSHING P/N 716122 (.750 I.D.)
OILSEAL (OPEN SIDE TOWARDS TRANSMISSION)
(4) 7/16"-14 x 1-1/2" LG PART #714349
ARM MOUNTS ON EITHER A BALL STUD OR AN ANGLE BRACKET.
ENGINE CRANK
FORD CLUTCH P/P & FLYWHEEL
FORD RELEASE LEVER (FORD USES TWO TYPES. CLIP TYPE OR BALL MOUNT.)
GM CLUTCH DISC P/N 383735
CLUTCH LEVER RETURN SPRING.

P/N 712552 - 1995 GM NV4500 to Ford 4.848" index Bellhousing Adapter:

The availability of the NV4500 becomes very difficult when trying to locate a specific transmission design. This adapter kit provides the longer Dodge input shaft for use with a Chevy NV4500 transmission. The adapter is only compatible with the 5.61 gear ratio and the early GM bolt pattern. This adapter plate only works on the 1995 GM NV4500 transmission. The adapter plate requires the removal of the Chevy input gear for replacement with the new Dodge input gear supplied in the kit.

Most Ford bellhousings use a 4.848" index. The clutch components listed below fit the 1985-1988 F150 bellhousing. The clutch diameter for this bellhousing is 11". We recommend the use of Centerforce clutch components. The recommended clutch components are as follows:



P/N 712552 plate & Ford 4.848" retainer (provided in kit) installed

P/N CF260000 - 11" pressure plate *(3 sets of 2 bolts)*
P/N CF360049 - 11" pressure plate *(6 bolts evenly spaced)*
P/N 383735 - 11" clutch disc
P/N 716311 - Release bearing (N1439)

The NV3550 transmission is an ideal transmission for the avid four wheeler that demands reliability, good strength, and wants a simple installation. The NV3550 was designed for the 2000 to 2004 Jeep TJs when coupled up the 4.0L in-line 6 cylinder engine.

This transmission was introduced as the NV3550 in 2000; however, this transmission design was originally used earlier in both the GM and Dodge pickups as the NV3500 transmission. The NV3500 was originally coupled to both the GM 4.3 V6 & V8 engines in GM vehicles and to the Dodge V8 in the Dodge vehicles. This early transmission was designed to handled both the torque and horsepower of these engines. The biggest obstacles for the NV3500 was that the bellhousing and transmission were integral (one cast piece). The NV3550 is essentially the same transmission as the NV3550, with the exception that now the transmission case and the bellhousing are separate pieces. This new design opened up the door for many transmission upgrades.

The NV3550 uses an oblong bolt pattern that retains the bellhousing with 9 metric bolts. The alignment of this transmission to the bellhousing is accomplished by the use of two dowel pins. The NV3550 has a case aluminum pocket that protrudes from the bellhousing mounting surface, housing one of the shift rods. The bellhousing adapter we manufacture must provide the necessary clearance for this shift rod. The transmission has a 7.50" input shaft stickout from the face of the transmission. The clutch spline is 1-1/8" 10 spline with a .750" pilot tip, and the release bearing snout is 1.43" in diameter. The output side of this transmission offers a circular-6 bolt pattern and a 23 spline output shaft having a flush stickout with the rear of the transmission.

We have seen three styles of shifter handles on this transmission which changed between the yeras and models of vehicles this transmission was used in. Shifter **Part No. 716099** fits the 2003 & newer models, **Part No. 716099A** fits the earlier years, and **Part No. 716099C** fits the Jeep Liberty's transmission. An additional option would be a custom short throw shifter offered from B&M. Although we do not stock this item, we can order it upon request (B&M P/N 45059, estimated cost of $210.00).

The transmission case measures 16.75" long, which allows this transmission to fit into many applications. We sell this transmission as a complete kit or separately. The vehicle applications that we currently offer fit Jeeps and early Ford Broncos.

The NV3550 transmission can be purchased under **Part No. 26-3550R**. This NV3550 uses a special gear oil only available from your Chrysler dealer under P/N 4874464. The backup light switch on this transmission has been changed several times. We have found that a new switch and pigtail, Mopar P/N 05013336AA, is the best way of connecting to this transmission.

MODEL/YEAR	*VEHICLE TYPE*	*DODGE PART NUMBER*	*DODGE CODE*	*ENGINE (Liters)*
NV3550 4WD TRANSMISSIONS				
4X4 2000	TJ	52104388	AA	4.0L
4X4 2001-02	TJ	52104388	AC	4.0L
4X4 2001-02	XJ	52104385	AB	4.0L
4X4 2003-04	TJ	52104678	AA	4.0L

NV3550 to JEEP CJ5 & CJ7 APPLICATIONS:

CJ5 JEEPS:

P/N 712591

Although this is a fairly long transmission for fitting into these short wheelbase vehicles, it can be accomplished when used with a GM V6 engine swap. The GM V6 is short enough to be set further forward in the frame rails and then coupled to the NV3550. The overall length of the 5 speed with the bellhousing and the transfer case adapter is 24.875" long. This ideal engine and transmission combination provides the needed highway gearing for these Jeeps and still provides a usable low gear for off-roading. The front driveshaft has good clearance on the transmission; however, count on lengthening and shortening the driveshafts to fit the new drivetrain length. Other modifications would include transmission crossmember support, and floorboard modifications for the shift handle. *NOTE:* Due to flywheel limitations on the later model blocks and the oil pan configurations, the GM 4.3 V6 should be a 1996 & earlier model.

We do not offer this as a complete kit. The following parts will be required for this CJ5 installation.

P/N 26-3550R - NV3550 transmission
P/N 712591 - Bellhousing to mate the NV3550 to the GM 4.3 V6 *(153 tooth flywheel limitation)*
P/N 50-8602 - Transfer case adapter NV3550 to Jeep Dana 20 transfer case

CJ7 JEEPS

The NV3550 transmission works well as a replacement transmission for the CJ7s or as a great transmission when performing an engine swap. The NV3550 is approximately 2-1/4" longer than the stock Jeep T5, T4, and SR4 transmissions, and 4-3/4" longer than the T176 transmission. When retrofitting the stock transmission with the NV3550, driveline modifications are to be expected.

The NV3550 also works well when performing an engine swap. We currently manufacture bellhousing adapter plates or a full conversion bellhousing to couple the NV3550 to the GM V6 & V8 blocks, the Ford V8 blocks, and the Jeep blocks. Depending on the choice of engine along with the placement in the frame rails, driveshaft modifications may not be necessary.

Even though the NV3550 has the correct output shaft spline count to fit to the Dana 300 transfer case and the correct indexing, the rear bolt pattern is slightly rotated from that of the Dana 300. The transmissions we sell are modified on the tailhousing to accept the stock Dana 300 bolt pattern rotation.

When installing the Dana 300 to the NV3550, you may be required to modify your transfer case shifter. The pivot pin on the Dana 300 transfer case must be installed so that the cotter pin is closest to the new transmission. You may also be required to grind a bit of the transmission webbing to obtain clearance for the pivot pin. The shifter handle should fit without any modifications.

The NV3550 transmission uses a 4 bolt rubber crossmember support. Our kits supply a crossmember adapter plate to change the four bolt crossmember transmission pad on the NV3550 to a two bolt pattern mount that was used on your stock Jeep. The location of the rubber crossmember mount may not line up with the stock skid pan slots; therefore, you may be required to re-slot your stock skid pan to fit the new transmission assembly.

The following kits are designed for the Dana 300 transfer case. The “R” kit include a transmission and the “AA” kits are just the adapters minus the transmission:

P/N 27-3530R - Dana 300 to NV3550 (Bellhousing adapter kit NOT included)

This kit includes:
- **26-3550R** - NV3550 transmission(modified to fit the Dana 300)
- **716007-PLT** - Transmission support adapter plate
- **716099** - NV3550 transmission shifter handle

P/N 27-3530AA - Dana 300 to NV3550 (Bellhousing adapter kit NOT included)

This kit includes:
- **50-8604** - Tranfer case adapter
- **716007-PLT** - Transmission support adapter plate
- **716099** - NV3550 transmission shifter handle

P/N 712544

P/N 27-3531R - NV3550 transmission retrofit (T5, T4, SR4, & T176)

This kit includes:
- **26-3550R** - NV3550 transmission
- **712545** - Adapter plate NV3550 to Jeep bellhousing *(must be a T150 or T176 bellhousing)*
- **716007-PLT** - Transmission support adapter plate
- **716099** - NV3550 transmission shifter handle

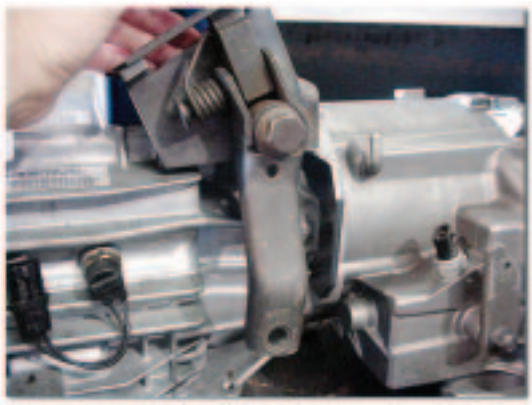
P/N 27-3531AA - NV3550 transmission retrofit (T5, T4, SR4, & T176)

This kit includes:
- **50-8604** - Tranfer case adapter
- **712545** - Adapter plate NV3550 to Jeep bellhousing *(must be a T150 or T176 bellhousing)*
- **716007-PLT** - Transmission support adapter plate
- **716099** - NV3550 transmission shifter handle

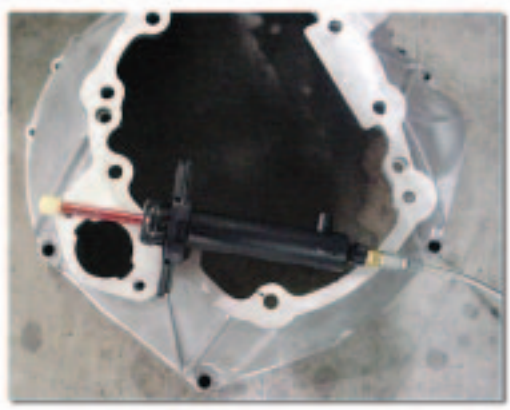
Optional Bellhousing Adapters:

P/N 712591 - GM V6 & V8 to NV3550 *(A 153 tooth flywheel is recommended when using this full bellhousing)*
The clutch components are as follows: **P/N CF360056** 10-1/2” pressure plate, **P/N 383271** 10-1/2” clutch disc, **P/N N1714** release bearing, and **P/N 716213** slave cylinder. If a 168 tooth flywheel is used, a Hi-torque starter, **P/N 22-0001**, must be used as well as the following clutch components: **P/N CF165552** 11” pressure plate, **P/N 383735** 11” clutch disc, **P/N N1714** release bearing, and **P/N 716213** slave cylinder.

P/N 712544 - Ford V8 to NV3550 *(Adapter plate that bolts to a stock Ford bellhousing)*
The stock bellhousing must be slightly modified for clearance on the NV3550 shift rod. This kit comes with a new 11” clutch disc to fit the 1-1/8” 10 spline input shaft.



P/N 715545 installed.



New external slave cylinder & hose (P/N 716340) provided in the kit.

JEEP WRANGLERS AND CHEROKEES:

PEUGEOT REPLACEMENTS:

For the last several years, we have been recommending the World Class T5 transmission as a retrofit for the light-duty Peugeot 5 speed; however, the availability of the WCT5 has come to an end. The opportunity of using the heavier-duty NV3550 was the logical choice as the new replacement transmission for the Peugeot.

The NV3550 transmission is the exact same length as the Peugeot 5 speed, which makes this transmission an ideal swap. The transmission shifter towers are within 1" of each other, so floorboard modifications are very minimal. Since the length of these transmissions are the same, and the fact is that most customers prefer not to do driveline modifications, we opted not to manufacture a transfer case adapter to couple the 23 spline NV3550 to the 21 spline transfer case. We, therefore, provide a new input gear for either the New Process 231 or 207 transfer case.

The only available rotation for the New Process transfer case to the NV3550 is the 13 degree rotation. This could cause some floorboard interference on vehicles that originally had a 23 degree stock rotation. The bellhousing in these kits replaces the stock internal release bearing of the Peugeot transmission and provides a new external slave cylinder with the use of a release arm and a standard release bearing.

The transmission kits we offer include a new NV3550 transmission, a new bellhousing, transfer case shifter linkage, crossmember adapter mount that retains the stock Peugeot rubber mount, slave cylinder kit, and an input gear for your transfer case.

The kits can be ordered complete under the following part numbers or the individual items list below can be ordered separately. The "R" kit include a transmission and the "AA" kits are just the adapters minus the transmission::

P/N 27-3507R- NV3550 to Peugeot 5 speed replacement with NP207 transfer case

This kit includes:

26-3550R - NV3550 transmission
712590 - Bellhousing Jeep engine to NV3550 trans.
715545 - Transfer case linkage bracket
716007 - Crossmember adapter plate
716096 - New Process 207 input gear
716099 - Shift handle
716340 - Slave cylinder and hose kit

P/N 27-3507AA - NV3550 to Peugeot 5 speed replacement with NP207 transfer case

This kit includes:

712590 - Bellhousing Jeep engine to NV3550 trans.
715545 - Transfer case linkage bracket
716007 - Crossmember adapter plate
716096 - New Process 207 input gear
716099 - Shift handle
716340 - Slave cylinder and hose kit

P/N 27-3510R- NV3550 to Peugeot 5 speed replacement with NP231 transfer case

This kit includes:

26-3550R - NV3550 transmission
712590 - Bellhousing Jeep engine to NV3550 trans.
715545 - Transfer case linkage bracket
716007 - Crossmember adapter plate
716053 - New Process 231 input gear
716099 - Shift handle
716340 - Slave cylinder and hose kit

P/N 27-3510AA - NV3550 to Peugeot 5 speed replacement with NP231 transfer case

This kit includes:

712590 - Bellhousing Jeep engine to NV3550 trans.
715545 - Transfer case linkage bracket
716007 - Crossmember adapter plate
716053 - New Process 231 input gear
716099 - Shift handle
716340 - Slave cylinder and hose kit

AX15 REPLACEMENTS:

We have had requests for the NV3550 transmission as a AX15 replacement. The NV3550 has the exact same configuration as the AX15 transmission. When replacing an AX15 that has an external slave cylinder on the bellhousing, the NV3550 can be bolted directly to the stock bellhousing. For Jeeps that have the AX15 with an internal hydraulic release bearing, you will be required to purchase our bellhousing and slave cylinder kit listed below. The transfer case side of the NV3550 transmission is the same as the AX15, with the exception of losing a bit of spline engagement.

P/N 26-3550R- NV3500 transmission
P/N 712590- Jeep 4.0L bellhousing to NV3550 (for replacing the AX15 internal hydraulic)
P/N 716340- Jeep slave cylinder kit for 712590 bellhousing (replacing AX15 internal hydraulic)
P/N 715542- Jeep TJ shifter bracket
P/N 715545- Jeep YJ shifter bracket

JEEP CONVERSION BELLHOUSING:

712590 - This full bellhousing is 7.500" long. This bellhousing can only be used with a hydraulic clutch assembly. The NV3550 bellhousing is designed to work with a stock 1987 to 2005 Jeep clutch assembly or a Centerforce pressure plate **(P/N CF361890)** and clutch disc **(P/N 384193)**. We offer a slave cylinder kit **(P/N 716340)** that includes all of the necessary components to fit this bellhousing and to work with your stock Jeep master cylinder. If the incorrect pressure plate or disc is used, or the stock flywheel has been resurfaced(to thin), proper clutch operations may be effected. *The flywheel should be 1" thick. If a thicker flywheel is used, the front retainer of the NV3550 will need to be shortened to avoid interference with the clutch disc hub.*

This bellhousing can be use with a stock Jeep slave cylinder from the 2000 to 2005 Jeep "TJ"; however, the slave cylinder from Chrysler is only sold as an assembly which includes a master cylinder and plastic hose. This assembly retails for close to $200.00. The biggest downside of this assembly is when trying to use it on an early style "YJ". The slave cylinder is the only part you can retain, and you would still require some additional components for this slave cylinder to work properly. We have devised a slave cylinder kit **(P/N 716340)** that includes all of the necessary components to fit this bellhousing and to work with your stock Jeep master cylinder.

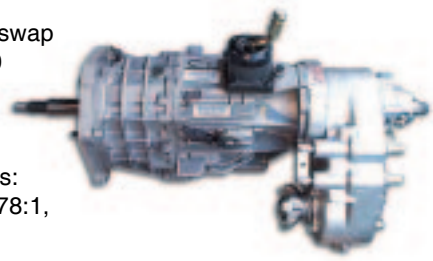
This bellhousing uses a dowel pin alignment to both the engine and transmission. The bellhousing must be bolted to the transmission before being installed into the vehicle. If using a 258(4.2), the stock Jeep dust shield from a AX15 or NV3550 (4.0L) should be used and the starter must index into this sheet metal dust cover. A new pilot bushing has been supplied and must be installed fully into the stock engine crank. *This pilot bushing is manufactured out of a "oilite bearings bronze" which must **not** be assembled with any type of **grease**.*

Reinstall the new or stock clutch components. Install the transmission and bellhousing up to the Jeep engine. Use the stock bolts from the engine to fasten the bellhousing to the block. Make sure the dowel pins are installed in the block before bolting on the bellhousing. If your engine requires a flywheel sensor for emissions control, install the flywheel sensor using the stock dowel bolts to obtain the proper alignment. If you are not going to use the a flywheel sensor but want to cover the access hole, you will need to fabricate a cover using either a piece of rubber or thin piece of sheet metal. This should be installed before the bellhousing and transmission are installed in the vehicle.

These components are designed to slip together. ***Do not pull components together with the bolts as damage to the assembly can occur.*** When installing the NV3550 and the bellhousing into the vehicle, you will be required to loosen the exhaust from off of the exhaust manifold. This will allow proper clearance to fit the bellhousing between the body and exhaust system. We also recommend that the transmission shift tower be removed so that the transmission can fit closer to the floorboard - allowing for an easier clutch alignment to the input shaft of the transmission. Be sure to cover the shift tower hole in the transmission to avoid debris from entering the transmission.

NV3550 to 1966-77 BRONCOS:

The NV3550 transmission is an ideal transmission swap for the early Broncos. This 5 speed is rated at 300 ft./lbs. at 7200 GVW. The weight of this 5 speed is 97 lbs., which is similar to the stock 3 & 4 speed transmissions. The overall size and length make it an ideal fit. The gearing of this 5 speed is as follows: 1st 4.01:1; 2nd 2.32:1; 3rd 1.40:1; 4th 1.00:1; 5th 0.78:1, and Reverse 3.57:1.

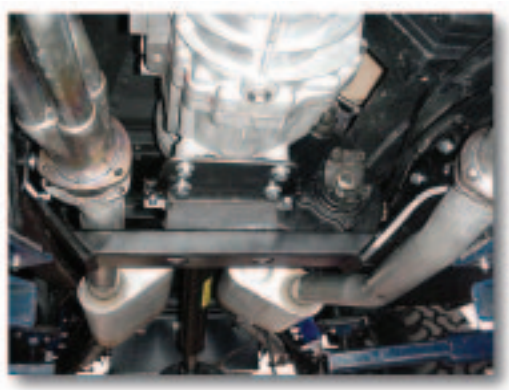


The transfer case adapter we manufacture for this transmission uses an adapter plate and spud shaft that couples to the NV3550 transmission. The adapter plate offers two rotation options for the Dana 20 transfer case: the stock rotation which is 42 degrees and a higher rotation of 34 degrees. The higher rotation may require a body lift for proper clearance. The transfer case adapter comes with a transfer case shifter linkage bracket which only fits the "T" style shifter.

Factory bellhousing modified for front shift rail clearance on the NV3550.

The stock Ford bellhousing will also need to be adapted. The NV3550 has an input shaft length of 7-7/8". We manufacture an adapter plate that bolts to the front of this transmission. This adapter provides you with the proper indexing and bolt pattern to couple to the stock bellhousing. The stock bellhousing will require slight modifications. Another consideration is the clutch disc spline. The stock Ford is 1-1/16" 10 spline, and the NV3550 is 1-1/8" 10 spline; therefore, a new disc is included in the adapter plate kit.

The new crossmember for the NV3550 transmission must also be used. Since this 5 speed does not offer angular support pads and our adapter is two short to have these provisions, we designed a new crossmember support for the new transmission. Our new crossmember bolts to the stock crossmember frame hole and includes a new rubber support. The crossmember is designed to fit both stock exhaust and header applications. *NOTE:* This crossmember will require some additional modifications when using an Atlas transfer case.



Crossmember P/N 716000 installed.

Retaining the Dana 20, we offer a complete transmission package which includes the transfer case adapter, bellhousing adapter, crossmember, transmission, and shift handle.

P/N 27-3520R - NV3550 to Bronco Dana 20

This kit includes:

P/N 50-9920 - NV3550 to Bronco Dana 20 T/C adapter *(1.40" long)*
P/N 712544 - NV3550 to Ford bellhousing 4.848" index *(adapter length 7/8")*
P/N 716000 - NV3550 crossmember support
P/N 26-3550R - NV3550 transmission

P/N 27-3520AA - NV3550 to Bronco Dana 20 (no transmission)

This kit includes:

P/N 50-9920 - NV3550 to Bronco Dana 20 T/C *(1.40" long)*
P/N 712544 - NV3550 to Ford bellhousing 4.848" index *(adapter length 7/8")*
P/N 716000 - NV3550 crossmember support

The NV3550 is 1/4" shorter than the factory 3 or 4 speed. Since the NV3550 is slightly taller than stock, a 1" body lift is recommended.

AX15 TRANSMISSIONS:

The AX15 transmission has always been a great transmission able to handle the torque and horsepower of most V8s. The biggest problem has always been the availability of new units. With the limited availability of a new NV3550, we revisited the possibly of obtaining the AisIn Warner AX15 transmission and were successful. Although the torque specifications are not listed on this transmission in any service manual, we feel it's similar enough to the NV3550. The NV3550 was the transmission that superseded the AX15; and Jeep used the same engine with the same vehicle ratings. With the availability of AX15 transmissions, we can now offer some additional transmission retrofit applications.

The overall transmission case length is 24.000". The output shaft on this transmission is 23 spline and protrudes approximately .400". This transmission is normally found coupled to the AMC 4.0L 6 cylinder engine. Transmissions from 1988-93 used an internal release bearing, while 1997-99 transmissions were switched to the external slave cylinder. The input shaft length of this transmission is 7-1/2". The input shaft spline is an 1-1/8" 10 spline, which is the same as Chevy. The pilot tip diameter is .590" on transmissions 1989-96, and .750" on transmissions 1997-99. The transmissions we offer are all the .750" pilot tip diameter and have a front retainer that supports a release bearing. We do offer several bellhousing adapters for the Chevy and Ford small block engines as well as the Jeep V8's and 6 cylinders.

We offer the new AX15's under **P/N 26-AX15**. The parts listed below by application would also be required when doing a swap.

AX15 Direct Replacement (Internal Release Bearing):

The AX15 internal release bearing was use between 1988 to 1993 in the Jeep vehicles. Since these Jeeps are getting up in mileage, a new AX15 makes sense as a direct retrofit. We only carry the later version of the AX15 transmission. If you have a early version AX15 with the internal release bearing, you can swap the retainer on your transmission and retain the internal setup. You can also switch the bellhousing out for our P/N 712590 and slave cylinder P/N 716340. This would allow you an external slave cylinder bellhousing.

Parts we offer: **Retaining the internal release**
P/N 716217 replacement internal bearing
P/N 716164 pilot busing with .750" I.D.

Switch to external slave cylinder
P/N 712590 external slave bellhousing
P/N 716340 slave cylinder

AX15 Direct Replacement (External Release Bearing):

The AX15 external release bearing was use between 1997 to 1999 in the Jeep vehicles. Our new AX15 transmission will be a direct exchange for the external slave cylinder bellhousing.

AX15 retrofitting (replacing) the AX5:

This kit fits all 4 cylinder Jeeps 1987 to 2002. The AX5 is considered a light duty transmission compared to the AX15. Jeeps equipped with larger tires and lower gears in the axle & transfer case may find the weak link in the drivetrain is the stock transmission. You can now install the AX15 in place of the AX5 to gain some drivetrain strength. The nice thing is that when your ready to replace the 4 cylinder with a larger V6 or V8, the AX15 is an ideal transmission for the power increase. We offer two kits for the AX5 replacements, one kit is for the external slave cylinder P/N 712563, and one kit for the internal slave cylinder P/N 712564. These kits include a new clutch disc, adapter plate, and .750" pilot bushing. We do offer an new Centerforce pressure plate for the Jeep 4 cylinder **Part No. CF361914**. The stock transfer case had a 21 spline input spline, the AX15 is a 23 spline transmission, requiring a 23 spline transfer case input. We offer new inputs for the NP231's and the NP207.

Peugeot 5 speed Replacement:

The AX15 is the exact same length. The kits we offer include a new input gear for either the New Process 231 or 207 transfer case. Due to vehicle variances, some applications may require transfer case linkage modifications. Kits include a new bellhousing, transfer case shifter linkage, a crossmember adapter mount to retain the stock Peugeot rubber mount, slave cylinder kit, and an input gear for your transfer case.

Parts necessary to for the Peugeot with a NP207 or NP231 transfer case

712590 - Bellhousing Jeep engine to NV3550 trans.
715545 - Transfer case linkage bracket
716007 - Crossmember adapter plate
716096 - **New Process 207** input gear (or) **716053** - **New Process 231** input gear
716099 - Shift handle
716340 - Slave cylinder and hose kit

1980-86 Jeep replacements:

The AX15 is longer than most of the 4 and 5 speeds found in these vehicles; however, the AX15 is an excellent upgrade to these drivetrains. The adapter kit we offer for this transmission is .750" thick and allows for a couple of rotations of the Dana 300 transfer case.

AX15 to Dana 300
50-8603 AX15 to Dana 300 23 spl. adapter kit

Optional Items:
716007 Trans mount

Chevy and Ford conversion adapters:

Along with the Jeep engine options for the AX15 transmission, we also offer a full bellhousing for the Chevy V8's and an adapter plate for the Ford V8's.

When converting to a Chevy engine our new GM conversion bellhousing uses a new slave cylinder, **P/N 716213**, that is mounted externally.

When converting to a Ford engine, we manufacture an adapter plate that requires the use of a stock Ford bellhousing. Since the AX15 has the hydraulic linkage, we recommend obtaining a 1987-88 F150 bellhousing. This bellhousing has provisions for a Ford hydraulic slave cylinder. The adapter kit is supplied with a brass hydraulic fitting, enabling the Ford slave cylinder to have a standard #3 male fitting for easy connection.

Chevy Engine to AX15
712567 Bellhousing kit

Optional Items:
CF360056 10-1/2" Pressure Plate
383271 10-1/2" Clutch Disc
716213 Slave Cylinder
N1430 Release Bearing
716130 YJ Hydraulic Fitting
716130TJ TJ Hydraulic Fitting
716130H 42" Stainless Steel Hose

383735 11" Clutch Disc
22-0001 Hi-torque starter 168T flywheel
22-0002 Hi-torque starter Vortec V8

Ford Engine to AX15
712543 Adapter Plate

Optional Items:
CF260000 11" Pressure Plate
CF360049 11" P.P.
383735 11" Clutch Disc
716130 YJ Hydraulic Fitting
716130TJ TJ Hydraulic Fitting
716130H 42" Stainless Steel Hose

AX15 transmission & NP231 transfer case.

AX15 to 1966-77 BRONCOS:

The AX15 transmission is an ideal transmission swap for the early Broncos. The gearing of this 5 speed is as follows: 1st 4.01:1; 2nd 2.32:1; 3rd 1.40:1; 4th 1.00:1; 5th 0.78:1, and Reverse 3.57:1.

The transfer case adapter we manufacture for this transmission uses an adapter plate and spud shaft that couples to the Ax15 transmission. The adapter plate offers two rotation options for the Dana 20 transfer case: the stock rotation which is 42 degrees and a higher rotation of 34 degrees. The higher rotation may require a body lift for proper clearance. The transfer case adapter comes with a transfer case shifter linkage bracket which only fits the "T" style shifter.

The stock Ford bellhousing will also need to be adapted. The AX15 has an input shaft length of 7-7/8". We manufacture an adapter plate that bolts to the front of this transmission. This adapter provides you with the proper indexing and bolt pattern to couple to the stock bellhousing. Another consideration is the clutch disc spline. The stock Ford is 1-1/16" 10 spline, and the Ax15 is 1-1/8" 10 spline.

The new crossmember for the AX15 transmission must also be used. Since this 5 speed does not offer angular support pads and our adapter is two short to have these provisions, we designed a new crossmember support for the new transmission. Our new crossmember bolts to the stock crossmember frame hole and includes a new rubber support. The crossmember is designed to fit both stock exhaust and header applications. *NOTE:* This crossmember will require some additional modifications when using an Atlas transfer case.

P/N 50-9920A - AX15 to Bronco Dana 20 T/C *(1.40" long)*
P/N 712543 - AX15 to Ford bellhousing 4.848" index *(adapter length 7/8")*
P/N 716000A - AX15 crossmember support
P/N 383735 - 1-1/8" 10 spline Clutch Disc